JUNE 1950

FIREMEN

FIFTY-FIFTH YEAR · NATIONAL FIRE PROTECTION ASSOCIATION

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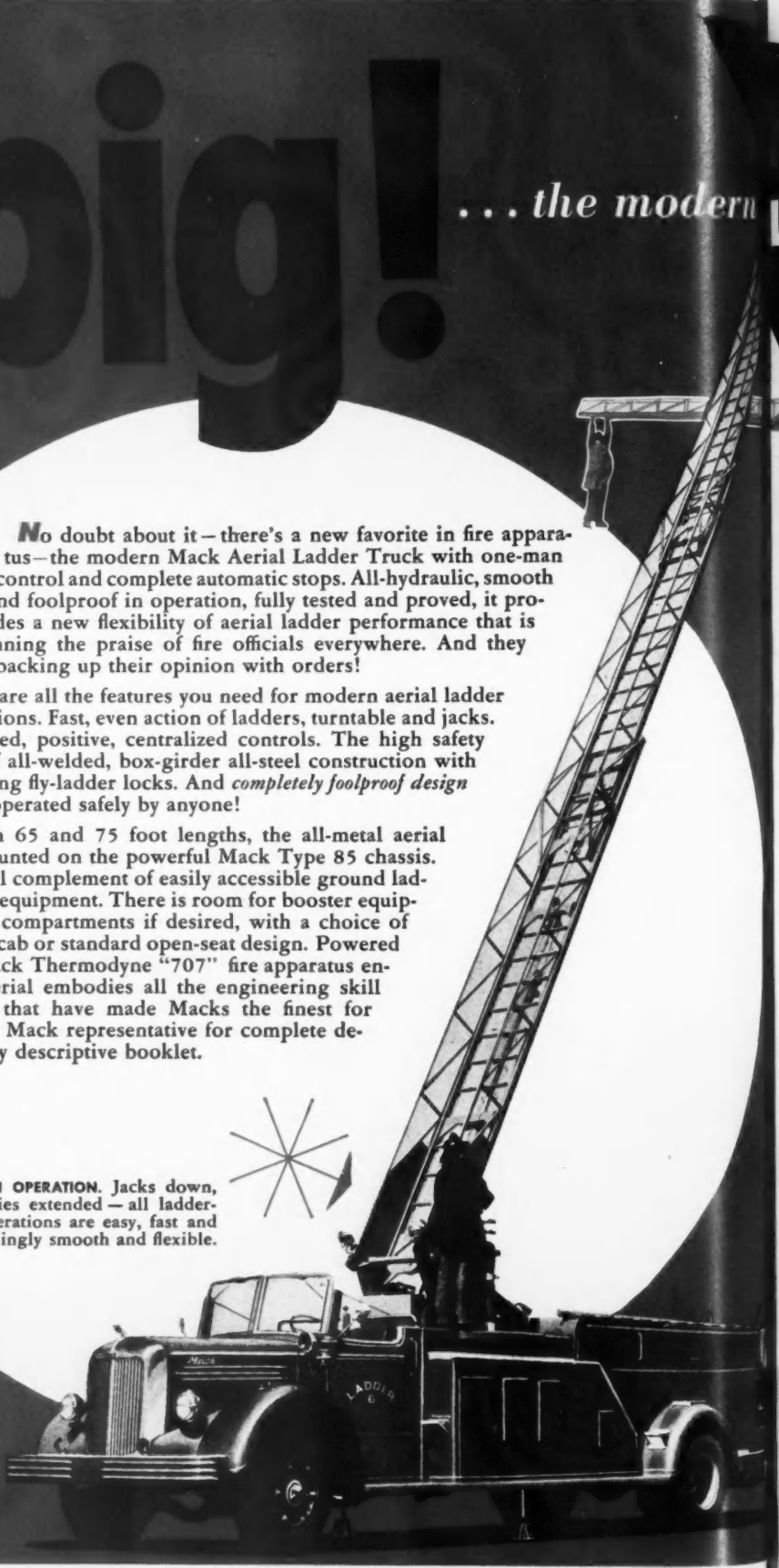
going over big! . . . the modern



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Available in 65 and 75 foot lengths, the all-metal aerial ladder is mounted on the powerful Mack Type 85 chassis. It carries a full complement of easily accessible ground ladders and truck equipment. There is room for booster equipment and hose compartments if desired, with a choice of semi-cab, coupe-cab or standard open-seat design. Powered by the famous Mack Thermodyne "707" fire apparatus engine, the Mack aerial embodies all the engineering skill and craftsmanship that have made Macks the finest for forty years. See your Mack representative for complete details, or write for fully descriptive booklet.

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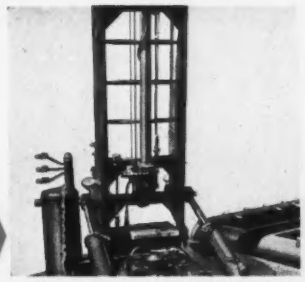
with one-man control and complete automatic stops



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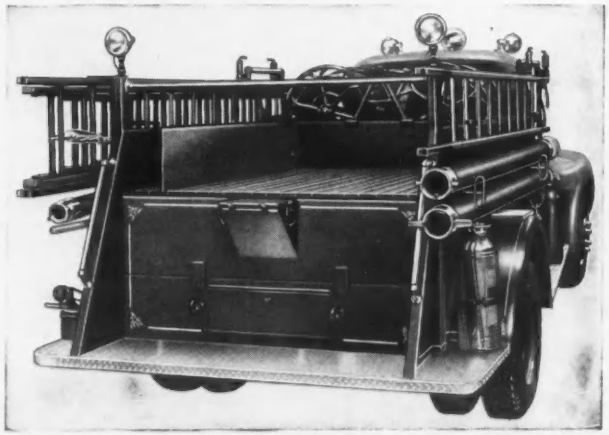
Write for Fire Apparatus Booklet



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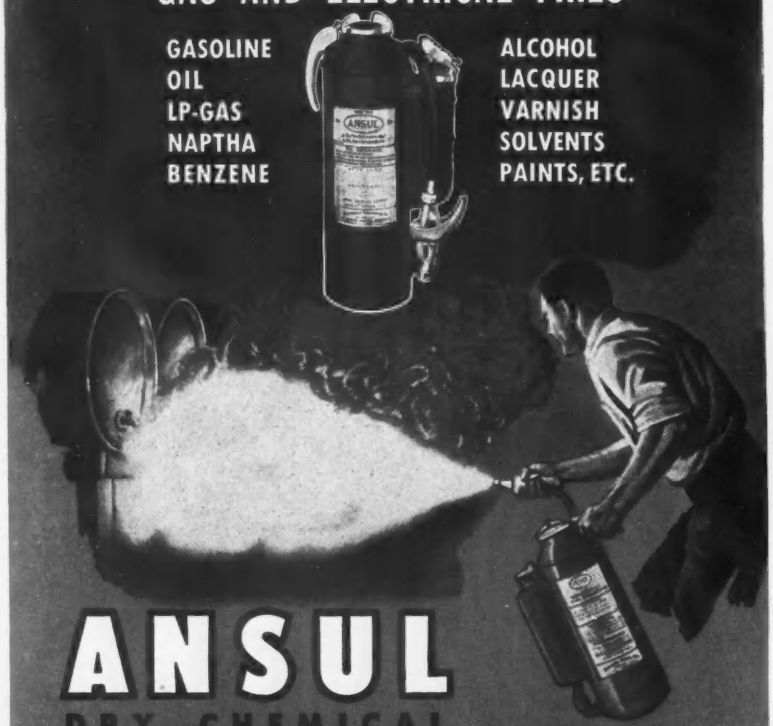

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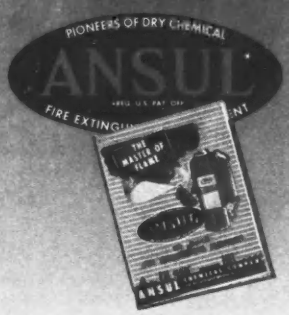

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THE MARCH OF TIME

NEWS FEATURE...TITLED...
"WHERE'S THE FIRE?"
at your favorite theater

•

Read the story about this excellent film on the facing page. It is built around a typical volunteer fire department.

•

The selection of Ansul Extinguishers to play an important role in the "March of Time" news feature is further proof of the superior fire stopping power of Ansul Dry Chemical Fire Extinguishers.

•

Firemen

Volume 17 — Number 6

WARREN Y. KIMBALL — EDITOR
HENRY S. GERE — ADVERTISING MANAGER

Published monthly for the fire service members of the
NATIONAL FIRE PROTECTION ASSOCIATION
A VOLUNTARY NON-PROFIT ORGANIZATION
60 BATTERYMARCH ST., BOSTON 10, MASS.

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Spring Conflagrations

Spring weather is favorable for other things besides flowers and romance. It is also fire breeding weather. NFPA records show that more sweeping conflagrations have occurred during the months of March–April–May than in any other three months of the year. Fires like warm days, a bright sun high in the sky, strong gusty winds, and low humidity. These are common to large areas of the continent during the Spring season. This was demonstrated again during the month of May 1950 when in three days' time three sweeping fires occurred in communities in the province of Quebec. Simultaneously, a number of New England communities were seriously threatened by wind driven forest fires. The Quebec communities that suffered destructive fires were Rimouski (see cover photo *Wide World*), St. Ursule, and Cabano. (see page 15 for further details).

Conflagrations usually result from a combination of unfavorable circumstances or some unusual conditions that overpower normal fire protection facilities. All too often, community fire defenses are barely sufficient to take care of routine fires with little or no reserve for meeting abnormal situations. Municipalities are inclined to be complacent in a self-assurance that the fire department has always been able to confine any fire to the property involved on arrival. Requests for new fire equipment, more manpower, or stronger water supplies are apt to be postponed in favor of more popular expenditures until after a great fire has proven the need and created a demand for more fire protection.

"Where's the Fire" Film

This is the title of March of Time's current release showing during May and June. Critics consider it perhaps the best motion picture film on the subject of fire departments. Volunteer firemen get most of the attention because "volunteers out number paid firemen ten to one." The film shows early hand drawn and horse drawn fire fighting equipment, a night turnout of New York City fire companies, a few shots of big fires in the "Big Town," then shows the volunteer fire department of Middletown, N. Y., some exciting scenes of a ladder contest at a volunteer firemen's tournament, and ends with a complete story of the White Horse, New Jersey, Volunteer Fire Department, which is a center of community activity in a place where everything stops when the fire siren sounds.

The picture tells who the individual White Horse volunteer firemen are, how each of them earns his living, how the company operates and recruits its members, and ends up with an alarm for a gasoline tank truck spill fire, which while not yielding to water streams (Class A extinguishing agent), is readily snuffed out by a chemical extinguisher of a type suitable for flammable liquid fires.

All well trained fire fighters, paid and volunteer, know that water has limited value on gasoline fires, although an excellent cooling agent for protecting exposed property. Gasoline vaporizes at 45° below zero F. and requires a smothering agent for extinguishment although occasionally water streams may blow out a small gasoline fire. It would be unfortunate if municipal officials got the idea that because some fires do not yield to hose streams from costly pumper apparatus, that a better fire fighting job can be done with hand equipment. Actually, it is a matter of using the type of appliance required for the fire fighting operation at hand.

"Water, Water, Everywhere"

A new twist to the "Rhyme of the Ancient Mariner" occurred at Kelseyville, California, at 2:30 A.M. on April 1. "Water, water, everywhere, and not a drop to drink" should be changed to "Water, water everywhere, and not a drop to pump." Kelseyville had a big fire that destroyed two stores. Only calm weather and a concrete building stayed the further spread of the flames.

Kelseyville had a brand new water system with a 30,000 gallon storage tank, an 8-in. main in the business district and a pressure of 80 lbs. When the fire occurred volunteer fire fighters from Lakeport and Upper Lake, nine and eighteen miles respectively, hurried through the hills to aid the Kelseyville firemen. Their efforts, however, were limited to use of booster tanks because of an oversight. It seems that no hydrants had been provided with the new water system.

Now the Kelseyville Chamber of Commerce is taking up subscriptions to install two hydrants because the water district is out of funds with which to make improvements. Kelseyville firemen are participating in a fire training course being conducted at Lakeport by the State Department of Education.

Photos on this page courtesy Los Angeles Fire Department

Equipment of a manifold company of the Los Angeles Fire Department. At left is the manifold wagon which lays 3½-in. supply lines to the front of a fire and supplies 2½-in. hose outlets. At right is an American LaFrance dual pumper with two 1500 gpm pumps used to supply the 3½-in. hose feeding the manifold wagon.

Los Angeles' Manifold Companies — Mobile Fire Hydrants

by Inspector W. A. Sweeters, Los Angeles Fire Department

THE need for increased pressure and large volumes of water in high value areas of large cities is met in some cities by the installation of separate high pressure water mains solely for fire fighting use. Either fresh or salt water might be used in such systems with the pressure maintained or increased as needed by stationary pumps connected with the system. New York City, San Francisco, and Cleveland are among the cities using separate fire mains to protect certain high value districts.

Because of its large area and other physical factors, the construction of a separate fire main system seemed impractical in Los Angeles and another means had to be found to provide heavy duty protection for the downtown or high value district. The answer to this problem came in 1938 with the establishment of the first manifold type of engine companies. Designed for use in high value districts, these fire companies have been stationed in or immediately adjacent to the downtown section of the city. At least one of these companies is assigned on first alarms from each box in the high value area. Nevertheless, on many occasions they have been utilized at large fires in other sections.

As operated in Los Angeles, manifold companies are, in fact, two piece engine companies with oversize pumpers and hose wagons. Each pumper assigned to these companies is of the duplex type (dual pumping units on a single chassis) with two V-12 engines, and at capacity is capable of supplying approximately 3,000 gpm.

In practice, one or more 3½-in. lines are laid between the pump stationed at a hydrant and the wagon spotted conveniently near the fire as a distribution point for hose lines. The wagons carry 1000 ft. or more of 3½-in. hose in conventional longitudinal hose beds at the rear of the apparatus. There is a divided body so that two of these large lines may be laid simultaneously. The wagons have four 3½-in. inlets to supply the manifold.

The 3½-in. hose carries 500 gpm at 9.5 lbs. friction loss per 100 ft. and 750 gpm at 20.4 lbs. friction loss per 100 ft. Thus four 3½-in. lines can utilize the full capacity of the 3000 gpm pumping apparatus.

From either side of the apparatus, other hosemen can lay the 1500 ft. of 2½-in. hose carried in two transverse hose beds, while the 3½-in. supply lines are being connected. As each 2½-in. line is pulled into position at a fire, it is attached to one of the five to eight 2½-in. discharge gates located at each side of the manifold wagons. Each individual line thus can be controlled at its discharge gate valve close to the fire and pressure on each line can be controlled by individual pressure regulators.

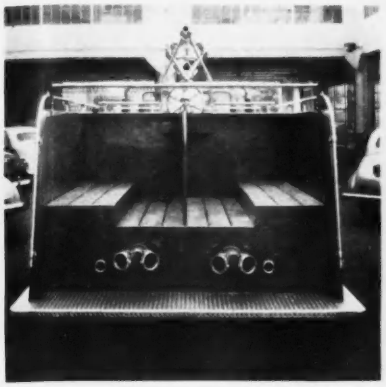
In addition to the larger hose (2½-in. and 3½-in.) manifold wagons carry 250 ft. of 1½-in. hose and a reel of 1-in. hose used for small fires and for overhauling. A heavy-duty battery or monitor nozzle, mounted on top of each wagon is connected directly through a large gate valve to the manifold.

Other equipment carried includes the usual engine company complement of ladders, a booster pump, a water tank of 80 to 100 gallons capacity, hand extinguishers, and numerous adapters and fitting necessary for hose lays.

Because larger crews are assigned to manifold companies as

Above: Two 4-in. hydrant connections are used to supply the dual 1500 gpm pumps of the engine assigned to a manifold company. Each 3½-in. discharge line supplies 750 gpm to the manifold wagon.

Right: As 3½-in. supply lines are connected to manifold, hoseman run 2½-in. hose from transverse beds and connect to gated outlets. Thus 3000 gpm can be taken from wagon directly in front of fire.



New Mack manifold wagon built for Engine Co. 3, Los Angeles Fire Department, on a Type 21 Mack with a 275 h.p. engine, 218-in. wheelbase, 350-in. overall length. The body has two full width seats; dual rear hose compartments for 1200 ft. 3½-in. hose; two transverse hose compartments with 1500 ft. 2½-in. hose which can be laid from either side; space in the transverse compartments for 200 ft. 1½-in. hose and 200 ft. 1-in. hose; additional compartments for two 2½-in. hose packs and one 1½-in. hose pack and miscellaneous equipment. There is a 100 gallon water tank and a four stage centrifugal fog pump capable of 50 gpm at 800 lbs. or 100 gpm at 150 lbs. There is a 1-in. discharge outlet on each side of the truck. The manifold system includes eight 3½-in. inlets, four at rear and two at each side; five 2½-in. outlets on each side, each with "pressurator" calibrated for 1-in., 1⅛ in. and 1¼ in. tips indicating the nozzle pressure being supplied from each outlet; two 1½-in. gates on each side. On top of the apparatus is a turret nozzle with independent gate. An interesting feature is a "pressurator" calibrated for the 1¾ in, 2¼ in. and 2¾ in tips provided. The capacity of the manifold system is 4500 gpm at 150 lbs. manifold pressure. This will give 2000 gpm from the turret with the 2¾ in. tip and 250 gpm from each of the ten 2½-in. outlets simultaneously. Obviously more than one 3000 gpm pumping unit will be needed to completely supply this manifold.

compared with regular engine companies, all manifold wagons have a seat behind the driver to accommodate the additional men.

LIKE any other large piece of apparatus, there are limitations inherent in the operation of manifold companies. Foremost is the fact that they can operate with full effectiveness only where they have an adequate water supply. Usually, this is considered to mean double four inch hydrants on 8-in. or larger mains. Secondly, in actual practice, there may be a tendency for firemen to operate the lines of hose from a manifold wagon exclusively at one side of a burning building. This is contrary to the commonly accepted strategy of surrounding serious fires. However, this is hardly a fault of the manifold wagon but is rather a tribute to its convenience.

Because of their size, there have been complaints that both the duplex pumpers and manifold wagons are more difficult to handle and are slightly slower than conventional apparatus in the heavy traffic usually found in high value districts. Yet throughout a 12-year period of operation, none has been involved in a serious accident.

Since the original cost of fire apparatus is an important consideration, it can be noted that at present it is estimated that it would require from ten to twelve thousand dollars more to purchase both pieces for a manifold company than a conventional two-piece engine company would cost.

On the credit side of the ledger, manifold companies have a number of important assets. They have the water throwing capacity of three first class engine companies. The wagon can be driven directly in front of a fire to act as a giant hydrant or distributor with hose lines quickly available. Its powerful battery can be used on large fires without affecting the simultaneous use of hand operated hose lines. The number of 2½-in. hose lines it can supply close to a fire is a distinct advantage. This advantage is further enhanced by the speed with which these lines can be laid from the transverse hose beds. Through pressure regulators at each discharge gate, satisfactory nozzle pressures can be maintained simultaneously on long or short lays of hose operating at different elevations.

The use of a manifold wagon reduces the necessity for long lays of smaller diameter hose. A single 3½-in. line to such a wagon can supply up to four 2½-in. lines. While perhaps the greatest advantage of manifold companies is their availability for larger fires, they are designed to be equally efficient on the small fires that produce the majority of alarms in their first-in districts.

With the recent installation of a squad company in a downtown Los Angeles station, it is expected that the effectiveness of manifold companies will be further increased. The squad can supply additional manpower to further utilize the facilities offered by the manifold.

Summing up, it must be pointed out that the manifold companies in Los Angeles are a specialized type of equipment to supplement conventional company apparatus. The big manifolds' record for efficiency has been excellent. They have won an important place in the fire protection plan of the city.

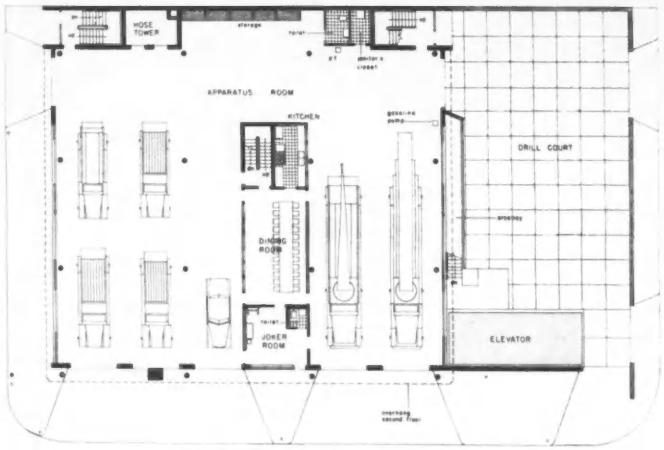
Nurses Esta Williams, Dorothy Benson, and Lilian Catterall, aid Assistant Chief Oscar C. Miller, head of the Barlow Twp., rescue squad.

Barlow Twp., Ohio, Adds Nurses to Volunteer Fire Rescue Squad

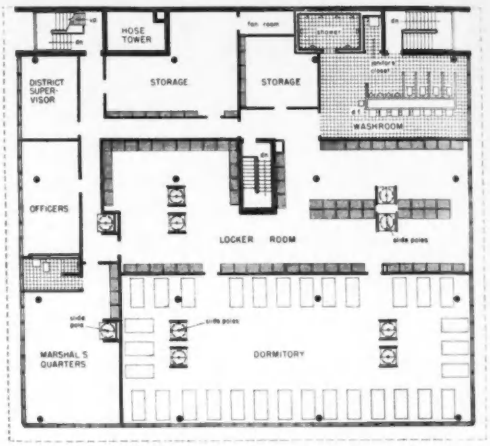
THREE nurses, all members of the Ladies Auxiliary of the Barlow Twp., Ohio, Volunteer Fire Department (member NFPA), have been made official members of the fire department rescue squad by Chief Harry T. Catterall. The nurses will respond with the squad on all accident and resuscitator cases. In addition to the resuscitator and first aid equipment, the squad carry masks and portable generator and flood lights. All members are required to take the advanced first aid course of the American Red Cross. In addition to the firemen, Boy Scouts, high school students and several townspeople have been taking this training.

Cincinnati's Ultra-Modern Fire House

By Warfield Webb



First floor plan showing apparatus floor.



Second floor plan showing offices and dormitory.

CINCINNATI firemen, this month, are to occupy a new and ultra modern fire house costing $420,000. The building located at 9th and Broadway will replace another fire house that will be torn down to permit street widening. The plans drawn by Frederick W. Garber, architects, and James E. Allen, engineer, included a color scheme of red and purple brick, tranquil green opaque glass siding, and bright yellow tile and paint.

The structure is two stories high. The first floor will accommodate a ladder truck, water tower, two pumpers, two hose trucks, and the marshal's car. The dining room, kitchen and the "joker room" where alarms are received are located in the center of the apparatus floor. The second floor will include a 30-bed dormitory, locker rooms, rest rooms, marshal's office, officers' rooms and offices. There are ten sliding poles.

The upper half of the second floor has windows on three sides. The lower half has green opaque glass siding. The locker rooms, rest rooms, and dining room have bright yellow tile walls. The remainder of the interior finish is of gray tile. Outside columns are painted bright yellow to contrast the red-purple brick walls of the first floor.

Two amphibious "ducks" equipped as fire fighters and useful during floods along the Ohio River are to be berthed in the basement with other reserve equipment. This equipment will be moved to the first floor via a 20,000 lb. lift, 33 ft. long and 12 ft. wide. It will travel at the rate of 28 ft. per minute, powered by electrically operated hydraulic-oil pumps. The elevator opens into a drill yard on a side street.

Radiant heating will be used during cold weather and during summer months the station will be cooled by a "spray-pond" roof covered by 2 to 4 in. of water to ward off sun's rays.

When an alarm is sounded all lights in the building automatically go on and the apparatus doors open automatically. Three minutes later the lights go off and the doors close. The building is wired for television.

Photo by Hubert Walker, American-LaFrance-Foamite Corp.

CANADIAN STANDARDS ASSOCIATION
Sub-Committee on Automobile Fire Fighting Apparatus

Meeting of the sub-committee of the Canadian Standards Association charged with preparation of specifications on fire apparatus which are to serve as a Canadian standard. The work of this group closely parallels that of the NFPA Committee on Fire Department Equipment. The fire apparatus specifications prepared by both groups are in close agreement. There are, of course, some changes such as the difference between United States and Imperial gallons. In the photograph are: Chairman, F. X. Ahern, Deputy Fire Commissioner, Province of Quebec (at the head of the table). To the right of the chairman: Paul Lefebvre, Fire Prevention Engineer, Province of Quebec; Pierre Thibault, Fire Apparatus Manufacturer, Pierreville, Quebec; Leo Gervais, Assistant to the Agent of the Province of Quebec in Ottawa; Fire Chief C. G. Burnett, Ottawa; J. E. Richie, Deputy Fire Marshal, Province of Ontario. . To the left of the chairman: George Fox, President, LaFrance Fire Engines & Foamite Ltd.; M. S. Mackenzie, Technical Assistant, Canadian Standards Association; J. N. Pryce, Canadian Underwriters Association, representing the Dominion Board of Fire Underwriters; C. C. Rollins, Vice President, Bickle-Seagrave, Ltd.; C. W. Graham, Canadian Underwriters Association; and B. C. Quinn, Royal Canadian Air Force.

Member Departments

Dunbar Junior Fire Department: Front row, left to right (kneeling): James Maxwell, Glenn Thurston, Kenneth Sydenstricker, Keith Davis. Rear row (standing): Captain Spradling, DFD, Junior Assistant Chief Edlin St. Clair, Junior Chief David Salisbury, Chief D. C. Thumm, DFD, City Manager George Gillispie.

Junior Fire Department, Dunbar, West Virginia

THE Dunbar Fire Department is enthusiastic about their Junior Fire Department, an organization of high school boys of 17 or more years old. This is the first such organization in that area of West Virginia. The group was organized under the guidance of Chief D. C. Thumm. Chief of the Junior firemen is Fireman David Salisbury. The adopted motto is "Fire Prevention."

The juniors drill one night each week with the city fire apparatus under the supervision of fire department officers. After serving in the junior department the youths can become call men with the city fire department and may then qualify as regular city firemen.

Recently a dance was held to raise money to buy badges for the members. The organization has teams in the city baseball and basketball leagues.

Yellowknife Volunteer Fire Brigade Northwest Territories

THE Yellowknife Volunteer Fire Brigade, organized in 1946 is one of the farthest north in the Dominion of Canada. It is located on Great Slave Lake just 300 miles south of the Arctic Circle. Great Slave Lake is longer than either Lake Erie or Lake Ontario in the Great Lakes. The former fire chief passed away recently leaving Assistant Chief M. D. MacGilliuray in command of the 12 fire fighters, who are paid $10 for every alarm and $2.50 for each practice drill.

The apparatus is a Bickle-Seagrave with ladders, 2000 ft. of hose, and a small pump. The fire chief also serves as Town Foreman.

Brooklyn Center, Minnesota, Volunteer Fire Department

THE Brooklyn Center Volunteer Fire Department was created by the village council on September 11 of last year. The company started with a roster of 80 men and by a process of self-elimination is down to a fighting force of 38 enthusiastic workers, according to Secretary Arthur Paulson. Chief Daniel T. Elmer and Assistant Chief John J. Linner were elected by the firemen.

The village, located near Minneapolis, has a population of 3250. It covers 9 square miles, about half devoted to residences and half to truck farming. There are four fire districts with all fire apparatus drivers in district 1 close to the station which is housed with the municipal liquor store. The station includes an office and sleeping quarters for members of the night watch who receive $3 per night. Men on duty Sundays and holidays receive $1.50. There are no full-time paid firemen.

Fire department headquarters at Bar Harbor showing Chief David Sleeper and other permanent firemen standing before the department's vehicles.

Bar Harbor, Maine, Fire Department

THE Bar Harbor Fire Department, under Chief David Sleeper and Assistant Chief John Higgins, has a history dating back to 1881. It protects the famed Bar Harbor summer resort community of 5,000 natives and 15,000 summer residents in a 48-square-mile territory. Most of the buildings are of wood frame construction. There are brush and slash areas of considerable size that present a special hazard.

The department consists of 100 members of whom 50 are active fire fighters. Four men, including the chief are full-paid members. Call men are paid on an hourly basis. There is an engine company and a truck company housed in the handsome headquarters station. Apparatus consists of 750, 600, and 500 gpm pumpers, 500 gallon tank truck with 200 gpm pump, city service ladder truck, 500 gpm trailer pump, 500 gpm portable pump, 60 gpm portable pump. The department also mans an ambulance with trained men.

The department is an active member of the Hancock County Firemen's Association. In October of 1947, aided by neighboring departments, the Bar Harbor firemen fought the great forest conflagration on Mt. Desert Island to a standstill, saving most of the congested areas of the city.

Volunteer Fire Department, Choteau, Montana

THE Choteau Volunteer Fire Department was organized in 1911 and the Relief Association was incorporated in 1927. Chief Gus Thompson is appointed by the city at $150 annual salary. Other officers are elected by the twenty volunteer firemen for two-year terms. Apparatus includes a 1946 Seagrave pump on Ford chassis, 1929 Ford, 2500 ft. 2½-in. hose, 300 ft. 1½-in. hose, rubber fog hose, 200 gallon tank, numerous small appliances. The County owns a rural truck and a resuscitator. The department is trained by the state instructor. Apparatus: 500 gpm Hale centrifugal pump on a 2-ton 1949 Ford carrying 500 gallons of water, and a 750 gallon tank truck with a Hale FZZ portable pump.

Squad Cars for District Fire Chiefs

Austin and El Paso, Texas, Provide District Chiefs with Small Emergency Trucks

TWO Texas cities have abandoned the traditional district chiefs' "buggy" in favor of emergency vehicles specially designed to carry the various appliances that a fire chief needs to have at hand, plus first aid fire fighting equipment that gives the chief and his driver something to work with pending the arrival of heavier apparatus. These cities are Austin which has four of these specially equipped cars for district chiefs, and El Paso which has two district chiefs' cars in service.

One of the Chevrolet canopy trucks serving as district chiefs' cars of the El Paso Fire Department, showing chief at the radio, high pressur fog gun in use, and some of the emergency equipment carried. Chief H. A. Davis says, "We are happy to have the efficiency of these cars called to the attention of other fire departments throughout the United States."

IN Austin, the four district chiefs' cars turned in an enviable record last year. They laid 63,500 ft. of booster hose out of 78,400 ft. used by the entire department, and used 59,282 gallons of water. These units raised 1,442 ft. of ladders out of 5,997 ft. for the entire department which includes three ladder companies. They did 106 hr. and 45 min. pumping time out of 158 hr. and 46 min. for the entire department including twelve pumper companies; and 1,042 hr. and 40 min. work time out of 1,678 hr. and 50 min. for the department.

These cars answered 1,447 alarms, travelled 5,473 miles or more than the total for the fifteen fire companies. Three lighting plants on the chiefs' cars operated 37 hr. and 10 min.

CHIEF Joe H. Boone of El Paso, recently retired, reported on his district chiefs' cars as follows:

"Something new and entirely different in the way of district chiefs' cars was introduced in the El Paso Fire Department in 1948. One ton Chevrolet canopy trucks were purchased and with a view toward getting more power, a high torque motor was specified. The trucks were equipped with a heavy duty generator to furnish extra current for flood and spot lights, and power equipment for forcible entry. Booster brakes were added to insure plenty of braking power for this emergency vehicle. Oversize tires take care of the extra weight brought about by the many items of equipment carried.

"The new fire fighting apparatus is a very radical departure from previous concepts of a chief's car. This vehicle is a completely independent fire fighting unit and could, in emergency, take care of any ordinary blaze without assistance. Before this idea was introduced a chief, upon arriving at the scene of a fire, could do little until the arrival of fire fighting equipment. Too, there was little space on the fire apparatus to carry the many articles of equipment that are now standard equipment on the chiefs' cars. Certain tools were carried only on the ladder truck company which does not respond to alarms outside of business and apartment house districts.

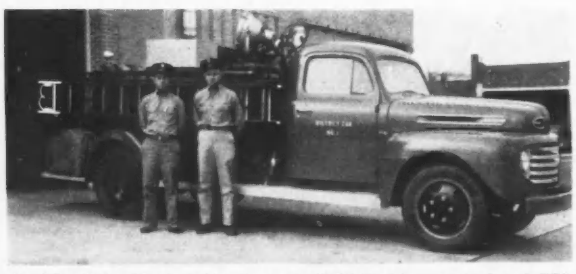
"Now carried on the chiefs' cars are: forcible entry tools and equipment, Scott Air Pak masks, fresh air masks, extra oxygen cylinders, resuscitators, lights, first aid equipment, litters, salvage covers, a 100-gallon booster tank with hose, a 50-lb. cylinder of carbon dioxide with 50 ft. of hose and nozzle, first aid extinguishers, and many other small tools too numerous to mention.

"One especially valuable part of the equipment is a foam distributor making 700 gallons of foam instantly available on gasoline and oil fires. The possibility of such fires is always present with transport trucks passing through the city at all hours. Thus the chiefs' cars are equipped with four extinguishing agents: (1) Water, effective on Class A fires, (2) Foam, very effective on gasoline and oil fires, (3) carbon dioxide, also effective on Class B fires, and (4) carbon tetrachloride, effective on Class C or electrical fires.

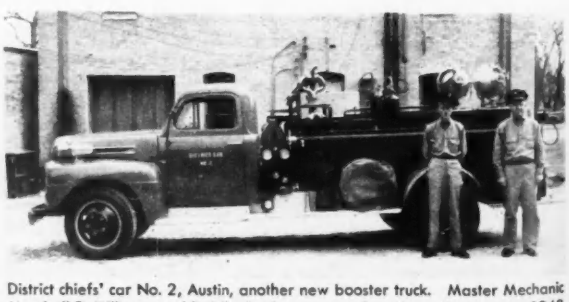
"A special nozzle for fighting fires in baled cotton using carbon tetrachloride is also part of the equipment. This nozzle is a long hollow steel rod with perforations. The rod has a sharp point so that it may be driven into the bale of cotton and carbon tetrachloride is forced through the perforations directly to the fire. This does not stain the cotton and the damage is limited to the cotton directly involved by the fire.

CHIEF H. A. DAVIS, who recently succeeded Chief Boone in command of the El Paso Fire Department, states: "Our cars are now equipped with three-way FM radios. In addition to the regular receiver and transmitter, the

(Continued on page 23)



Austin's district chiefs' car No. 1, a new 1948 Ford booster truck with 200 gpm pump, placed in service Dec. 31, 1949. Emergency equipment carried includes generator and flood lights, monitor nozzle, carbon dioxide extinguishers, ladders.



District chiefs' car No. 2, Austin, another new booster truck. Master Mechanic Marshall R. Miller assembled the body, pump and equipment on a new 1948 Ford chassis. This unit is similar to the No. 1 car but the opposite side is shown.

FIRES THAT MADE THE NEWS

Bangor, Maine, April 15, Windsor Hotel (*Acme*). Fire of undetermined cause started in employees' dressing room in basement of this unsprinklered 3-story brick, wood-joisted hotel at 6:36 A.M. It was first reported by persons in an adjoining building. Firemen wearing oxygen masks assisted over 85 persons to safety over ladders, fire escapes and one stairway, as flames spread through partitions, false ceilings and vertical openings of the 100 room hotel structure, recently renovated. No guests were injured but 14 fire fighters required treatment. Six pumpers, 3 ladder trucks and 2 special trucks responded and used 16 streams from hydrants on a 12-in. main, and including several ladder pipes. The hotel had two roofs with 4 ft. cockloft between. For a time the 6-story Graham Building next door was endangered. Loss estimated: $700,000.

Wilmington, Del., April 2, Lumber and Feed Yards (*Acme*). This picture fails to convey an adequate conception of the intense fire that greeted Chief George T. Morgan's men when they responded at 5:09 P.M. to a blaze in the lumber yard, mill and feed yard of the Wilmington Sash and Door Co. in a 3-story brick and 1-story frame structure. An 8-year-old boy, playing Indian, set fire to straw and hay with a lighted broom saturated with kerosene. Fourteen exposed properties were afire when firemen arrived. A woman died of a heart attack while being assisted from her home. Thirty-two buildings were involved; 12 largely destroyed. Twenty-two fire companies, including neighboring volunteer units, used 46 hose streams. At one time firemen had to be wet down with spray streams to hold their positions and a pump operator used his booster line to cool his pumper. Loss $600,000.

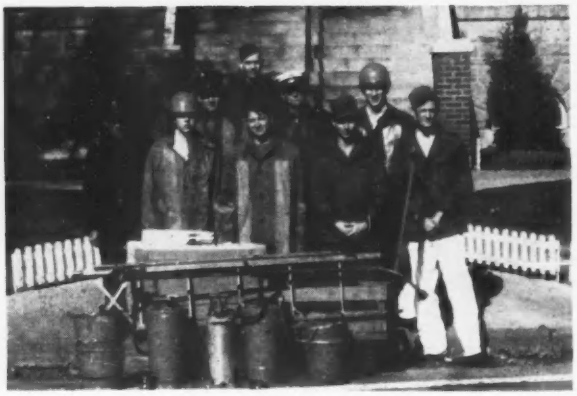
New York, N. Y., April 7, Woolworth Building (*Acme*). Fire originated in a 23rd floor office of this 58-story structure, once the world's tallest building. Firemen called at 1:03 A.M. found flames issuing from all windows of one room and fire in a storeroom and offices directly across a hallway in which an oxygen-acetylene cutting outfit was burning. After fire was extinguished by 6 engine and 2 ladder companies, it was found that a house standpipe hose had been operated and abandoned in the corridor by an unknown person. Three persons were overcome. The loss was considerable. Photo shows reporter climbing to fire area.

Statesboro, Ga., March 18, Business Buildings (*Wide World*). A furniture store employee attempted to light a space heater piped for liquified petroleum gas when an explosion demolished the 2-story brick building trapping two employees in the debris. The fire chief, 2 paid and 2 volunteer firemen were in front of the fire house two blocks distant having just returned from another fire. They responded and finding two men trapped directed their efforts toward keeping the flames away from the trapped men until rescue was effected after 40 minutes. The photo was taken before firemen arrived. Fire spread to buildings on both sides but was controlled by 7 hose streams. Seven outside departments responded and two went into service. Loss $300,000.

North Hood, Texas, March 30, Military Warehouses (*Acme*). Six old, and 4 newly completed warehouses comprising two 300 ft. long buildings were destroyed in 20 minutes time in a fire in a Texas National Guard training area 25 miles from Camp Hood. Fire pumpers from North Camp, Camp Hood, Gatesville, and Killeen saved an ordnance shop and family quarters nearby. Apparently, a number of fire doors between sections were open and flames passed over fire walls. The burned buildings contained gasoline and other petroleum products as well as ordnance and camp equipment. Loss over $1,019,000.

Vacaville, Calif., March 20, Lumber Yard (*Vacaville Reporter*). A small fire of suspicious origin was discovered in a lumber shed of the Diamond Match Co. by a police prowl car at 3:20 A.M. The fire spread rapidly and was beyond control by the time firemen responded. Fire companies from Elmira, Dixon, and the Suisun Fire Protection District aided Vacaville in confining the flames to lumber company property. Loss $200,000.

Toledo, Ohio, March 18, Lumber Concern (*Tom O'Reilly*). An aged watchman fired the boiler in the basement during his 3:15 A.M. round. Presumably, sparks ignited shavings and sawdust near furnace. Watchman was in office when a truck dispatcher next door pulled city fire alarm box at 4:10 A.M. Eighteen fire companies used 15 hose streams from 8 hydrants on 6-in. main. Limited water supply and highly combustible stock was blamed for extension of fire from the 3-story brick-walled main building to the 2-story brick-walled lumber storage building. Loss: $215,000.



3450th Station Hospital Fire Brigade

3450th Station Hospital Fire Brigade at Francis E. Warren Air Force Base, Wyoming

by Captain Willis H. Liggitt, MSC (USAF)
Assistant Fire Marshal

THE 3450th Station Hospital, Francis E. Warren Air Force Base, Wyoming, under the command of Colonel Howard F. Currie, USAF (MC), is mighty proud of the progress being made by their hospital fire brigade (member NFPA) organized only a year ago this month. The brigade furnishes fire protection to twenty hospital buildings, many of which are temporary wooden frame structures. Captain H. C. Frost, MSC (USAF) is Hospital Fire Marshal, assisted by Captain Willis H. Liggitt who is responsible for the operation of the brigade. Fire brigade chief is Staff Sergeant Golden.

The "Fire Squadron" consists of ten men. A weekly drill is held and coordinated with the air base fire chief as the job of the brigade is to control fires until the arrival of the base fire department. Classes include fire prevention, knowledge of all exits, and location of extinguishers. Monthly practice drills include evacuation of ambulatory patients, and use of fire fighting equipment.

A four wheel baggage truck has been loaded with the brigade's mobile fire equipment. It is 5½ x 3 ft. in size and works well in the hospital corridors although larger wheels and a curved push bar at each end to replace the steering tongue would be desirable. Also a more substantial hose body is recommended. Nevertheless, an amazing amount of fire fighting gear is carried. The front compartment, 2½-ft. deep and 3 ft. wide is termed the "initial attack" section and carries: two 5-gallon pump cans, a 1-gallon pressure type vaporizing liquid extinguisher, 100 ft. doughnut roll with applicator attached; six fire pails in stacks of three with a fire department gas mask and helmet in the top pails; a tool box containing an extra applicator, hose straps, 1½-in. cap, 2½ x 1½ x 1½-in. wye, gaskets, 50 ft. 1-in. rope.

The 3 x 3-ft. hose box carries 500 ft. 1½-in. double jacketed fire hose in a modified horseshoe load with the last 30 ft. doughnut rolled with an Elkhart 1½-in. combination straight stream and fog nozzle attached. The roll provides adequate working line at the nozzle. A flat hydrant wrench is fitted in the rear of the horseshoe. Four fire coats are folded on top of the 1½-in. hose and 50-ft. of ¾-in. hose with universal connection is coiled on top of the coats. This is dumped with the "initial attack" equipment.

On the side of the rig is a 5½-ft. specially designed hook ladder and a 5-ft. fog applicator. A utility compartment contains spanner wrenches, fire axe, pinch bar, sprinkler shutoff, hand axe, 2½ x 1½-in. reducer, and hydrant wrench. Each item has its own place.

Suggestions and comments from other fire brigades would be welcomed.

Front of dolly filled with "initial attack" fire kit including pump tanks, buckets, helmets, and gas masks.

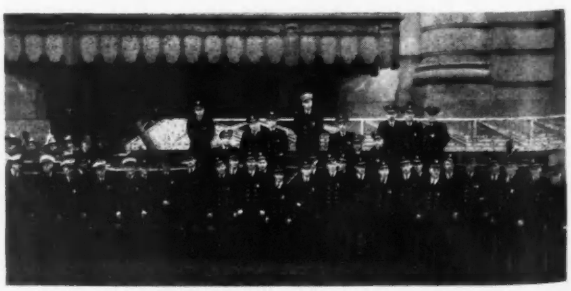
Rear of dolly with 500 ft. 1½-in. fire hose topped by doughnut roll and combination nozzle and coil of ¾-in. hose.

At speaker's table as the Fred Harvey System pays tribute to Kansas City, Missouri, fire fighters, were, left to right: Byron Harvey, Jr., president of the chain; Mayor William E. Kemp; Daggett Harvey, B. J. Duffy, president of the Kansas City Terminal Railway Company; Francis Wornall, Director of Fire; and Stewart Harvey.

Restaurant Chain Fetes Kansas City Firemen

TWO months to the day after Kansas City firemen turned in an excellent performance on a 2-alarm fire in the kitchen of the Harvey House at Kansas City's Union Station, they rolled back again but this time to a filet mignon breakfast with all the trimmings, as guests of the Fred Harvey System. The breakfast was staged as a tribute to the fire fighters who had confined the blaze to the kitchen.

Paying tribute to the fire fighters, Byron Harvey, Jr., said in part: "A fire is always a painful affair. But the unfortunate fire in this restaurant developed an inspiring aspect which we desire to recognize publicly. In a matter of minutes the fire, which might have become a disaster was brought under control. The firemen manned their equipment smoothly and quietly, there was a minimum of noise and confusion in our restaurants."



The 55 firemen who fought a 2-alarm fire in the kitchen of the Fred Harvey restaurant in the Kansas City Union Station, shown as they arrived for a breakfast staged in their honor.

Rimouski conflagration continues to burn in large hospital and convent in background, hours after houses in foreground had been reduced to cellar holes. Note at the right of the picture the anomaly found in almost every conflagration, a wooden frame building standing in an area of devastation with brick-walled structures gutted in the background. (*Acme*)

Quebec Conflagrations

THE high winds and dry weather during the early part of May contributed to three sweeping fires in the Province of Quebec in Canada. The first and greatest of these was the conflagration at Rimouski, starting on Saturday, May 6th, when a power line snapped and set fire to a lumber yard. This fire burned out of control for 30 hours and caused losses variously estimated at between $8,000,000 and $20,000,000. The second fire was in the little town of St. Ursule on Sunday, May 7th, while the Rimouski fire was still in progress. This destroyed three commercial buildings and eight residences as flames were fanned by 60 mph gusts. Fire No. 3 was the conflagration that wiped out a substantial portion of the lumber town of Cabano, 4000 population, 60 miles south of Rimouski on Tuesday, May 9th, with loss placed at upward of $2,000,000.

NFPA Chief Engineer Horatio Bond was in Quebec City at the time of the Rimouski conflagration and flew to that city by air with Canadian officials. It is expected that a detailed report of the fire will appear in the July NFPA QUARTERLY.

Two thousand of Rimouski's 15,000 inhabitants were made homeless by the blaze driven by a 36 mph wind. Fire started at 5:00 P.M. in the lumber yards of the Price Bros. mills and flying embers destroyed or seriously damaged 312 homes and numerous institutions along two streets parallel to the east bank of the St. Lawrence River. Fortunately no lives were lost.

Among the institutions destroyed were the 4-story St. Joseph Hospital from which 250 patients were moved, a convent and home from which approximately 150 aged persons and 150 orphans were evacuated, the new Technical School, and a Provincial Marine School. Forty-three chained prisoners were led from the jail and court house. The cathedral was saved although ignited several times.

As is the practice in a number of Quebec communities, the chief of police, Chief Lepage was in charge of the work of the 100 fire fighters. However, at the request of local authorities, Chief Instructor Charles Blickstead of the Montreal Fire Department flew to Rimouski to direct fire fighting operations. Fire fighters complained of a shortage of water.

The western exit from the city was cut off by the burning of planking on the 400 ft. long steel bridge spanning the Rimouski River. The burning of power poles plunged most of the city into darkness as flames raged through the night. Wire communications were clogged until the Army radio center was established for official business. Fortunately, the telephone exchange was spared.

THE fire at St. Ursule on Sunday, May 7th, destroyed a bakery, credit union, and general store and 8 residences or apartments. Volunteer firemen came from St. Leon and Louiseville Parish to help. An interesting note is that when the call was received, St. Leon firemen were staging a public demonstration of their new pumper. They took the machine to St. Ursule where it supplied four streams.

THE Cabano fire on May 9th, leveled about a third of the town including some 33 business buildings along the main street and 112 homes. The number of homeless has been reported as high as 1200 and the Army erected a tent community to provide shelter. Six nearby fire departments helped in fighting the fire.

THIS BOOT MAY SAVE YOUR LIFE!

U. S. ROYAL FIREFIGHTER BOOTS

- Extra reinforced ladder shank
- Wide skirted top pulls on or off, FAST
- Extra supple rubber rolls down comfortably
- Rubber yank-hooks
- Boot lining and insole of soft, warm felt
- Super-cushiony insoles
- "Tuftoe" construction
- High-visibility, white, anti-skid, cleated, sole and heel
- Storm King or Short Boot Lengths

U.S. ROYAL FIREFIGHTER COATS

100% waterproof coats of sturdy black rubber with warm, maroon napped lining. Roomy, 2-piece body, raglan shoulders; fly front with instant snap and dee fasteners; roomy outside patch pockets. No stitching in main body; seams cemented, outside gum-strapped. Fully vulcanized after making.

US ROYAL FOOTWEAR

UNITED STATES RUBBER COMPANY

Rockefeller Center, New York

Prince Georges County Scores Another First with County Fire Radio

PRINCE Georges County, Maryland, believed to be the first metropolitan county in the United States to dispatch its independently operated volunteer fire companies and rescue squads through county dispatchers, added another first on April 1, 1950, when a county operated radio communications system for fire apparatus and fire department ambulances was added to the County Fire Board facilities.

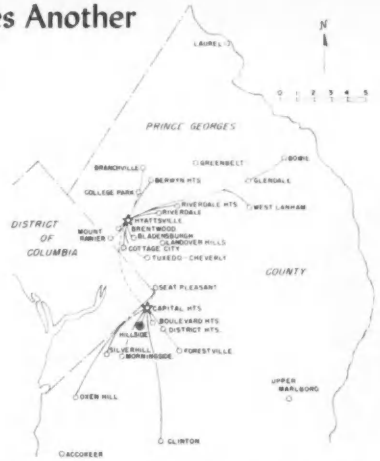
Radio calls may be dispatched to some 28 volunteer fire departments from either of the two constantly manned control boards or centers that dispatch fire apparatus in accordance with prearranged assignments. These assignments provide for response of fire companies up to and including a 4th alarm for a given fire.

As pointed out in FIREMEN for October 1947, the county dispatchers, upon receipt of an alarm, actuate the sirens of the fire companies assigned to respond. If an acknowledgement is not obtained from any volunteer fire company within three minutes, another unit is ordered to fill it. Now, communications may be maintained with the various fire companies when out of quarters by means of two-way radio. Calls for additional assistance can be handled by the dispatchers or companies may be rerouted to spots where they are most urgently needed.

Fire and ambulance calls come to the fire board dispatchers over a universal fire telephone number — UN-1122 — eliminating the confusion of trying to telephone directly to individual volunteer fire companies in the event of a fire or emergency. Volunteer firemen have distributed more than 40,000 decalcomanias with this number for attachment to individual phones in the county.

The new fire radio system, designated KGA-361, was dedicated with appropriate ceremonies at the Hillside, Maryland, fire station where the 125 ft. antenna is located. The radio mast, formerly located at the Upper Marlboro police station, was moved ten miles and set up by volunteer firemen aided by a $2,000 appropriation by the county commissioners.

There are 78 mobile radio units on fire apparatus and fire ambulances. These were paid for by the respective volunteer units, but are a part of the county fire radio system operating on a frequency of 33.86 mc. The maintenance, salary, and operating expenses of these alarm headquarters and radio facilities are paid by the Prince Georges County Commissioners. The operating cost for this year is $28,500, including leased lines connecting the various fire houses.



Map of Prince Georges County, Md., showing location of fire companies. Stars indicate county fire dispatchers. Bullseye indicates location of radio tower for county fire alarm station KGA-361. Solid lines indicate direct lines to fire houses.

The fire dispatcher boards are operated under the jurisdiction of the Prince Georges County Commissioners with the guidance of the Fire Board Committee of the Prince Georges County Fire Association. Chief Karl A. "Chick" Young of Mt. Rainier is Chief of Fire Control. Installation was made by Lieutenant Mackall and Corporal Austin of the county police.

Fire Radio Frequency Plans for Delaware and West Virginia

SINCE the recent publication in FIREMEN of details of the fire radio frequency assignment plans for the states of Maryland and Virginia, plans have been released for the states of Delaware and West Virginia. Fire service radio is covered by Part 10, Rules and Regulations of the U. S. Federal Communications Commission. Copies of Part 10, can be obtained for 10 cents from the Superintendent of Documents, Government Printing Office, Washington, D. C. Copies of the National Fire Service Allocations Plan can be secured from the International Association of Fire Chiefs, 22 E. 38th St., New York, N. Y.

It is suggested that all walkie-talkie portable fire radios in both Delaware and West Virginia be on the 33.42 mc band. Fire departments in cities of over 10,000 population are to use the 152-162 mc band for their base and mobile units as follows:

Acknowledgement is made to Herbert A. Friede, Superintendent of Communications, District of Columbia, for much of the information regarding the new Prince Georges County fire radio system and the fire radio allocation plans.

DELAWARE CITIES:

Wilmington	154.31 Mc
Dover	154.43 Mc
Georgetown	154.25 Mc

WEST VIRGINIA CITIES:

Bluefield	154.13 Mc
Buchanan	154.19 Mc
Charleston	154.43 Mc
Charlestown	154.13 Mc
Clarksburg	154.31 Mc
Elkins	154.37 Mc
Fairmont	154.13 Mc
Huntington	154.43 Mc
Keyser	154.19 Mc
Martinsburg	154.25 Mc
Moundsville	154.13 Mc
Morgantown	154.37 Mc
Parkersburg	154.25 Mc
Wheeling	154.19 Mc

Fire departments in communities of less than 10,000 population are to make use of the 30-50 mc band for their base and mobile units. Frequencies recommended for specific counties follows:

DELAWARE COUNTIES:

New Castle	33.94 Mc
Kent	33.78 Mc
Sussex	33.86 Mc

WEST VIRGINIA COUNTIES:

Jefferson	46.42 Mc
Berkeley	46.50 Mc
Morgan	46.06 Mc
Hampshire	33.70 Mc
Mineral	33.74 Mc
Grant	33.86 Mc
Hardy	33.98 Mc
Tucker	33.82 Mc
Preston	33.94 Mc
Monongalia	33.78 Mc
Wetzel	33.74 Mc
Marshall	33.82 Mc
Ohio	33.86 Mc
Brooke	33.90 Mc
Hancock	33.94 Mc
Tyler	33.98 Mc
Pleasants	46.06 Mc
Wood	46.10 Mc
Ritchie	46.14 Mc
Doddridge	46.18 Mc
Harrison	46.38 Mc
Marion	46.42 Mc
Taylor	46.46 Mc
Barbour	33.70 Mc
Pendleton	46.42 Mc
Randolph	46.10 Mc
Upshur	46.06 Mc
Lewis	33.78 Mc
Gilmer	33.74 Mc
Calhoun	33.82 Mc
Wirt	33.90 Mc
Roane	33.94 Mc
Jackson	33.98 Mc
Mason	46.06 Mc
Cabell	46.50 Mc
Putnam	46.46 Mc
Kanawha	46.42 Mc
Clay	46.38 Mc
Braxton	46.50 Mc
Webster	46.46 Mc
Pocahontas	46.18 Mc
Greenbrier	46.42 Mc
Nichalas	33.70 Mc
Fayette	33.78 Mc
Boone	33.82 Mc
Lincoln	33.86 Mc
Wayne	33.90 Mc
Mingo	33.94 Mc
Logan	33.98 Mc
Wyoming	46.06 Mc
McDowell	46.10 Mc
Mercer	46.18 Mc
Raleigh	46.50 Mc
Summers	33.86 Mc
Monroe	33.70 Mc

In various areas the International Municipal Signal Association has set up radio allocations advisory committees to assist fire departments in engineering problems, interpretation of the assign-

(Continued on page 22)

Institution and Church Fires

Acme

Cape Breton County Mental Hospital, Nova Scotia

FIRE starting from a defective chimney on March 22, swept through this 45-year-old wooden frame mental hospital building. Some 195 patients were moved to safety to a newer section. Fire fighters from Sydney, Dominion Steel Co., and the Point Edward Naval Base used 8 streams to save other hospital buildings.

Wood County Infirmary, Nicolette, West Virginia

AN 80-year-old inmate was trapped when fire destroyed this old 2-story brick, wood-joisted home for aged and infirm persons at 2:20 A.M., Feb. 26, with loss of $130,000. Ten months before the fatal fire the Fire Prevention Bureau of the nearby Parkersburg Fire Department had made an inspection and sent detailed recommendations to the county officials and to the state fire marshal. No corrections had been made when fire started in the boiler room from overheated furnace. The only water was that in fire department booster tanks. This was used during rescue operations.

Acme

Manhattan State Hospital Dormitory

FIRE due to careless smoking, discovered two minutes before midnight on March 30, destroyed a 2½-story brick, wood joisted nurses' dormitory at Manhattan State Hospital, Wards Island, New York City. Fire had extended up stairway to cockloft before arrival of firemen. Seventeen hand lines and 3 deckpipes were used by fire companies responding to four alarms according to Chief of Staff and Operations Frank Murphy.

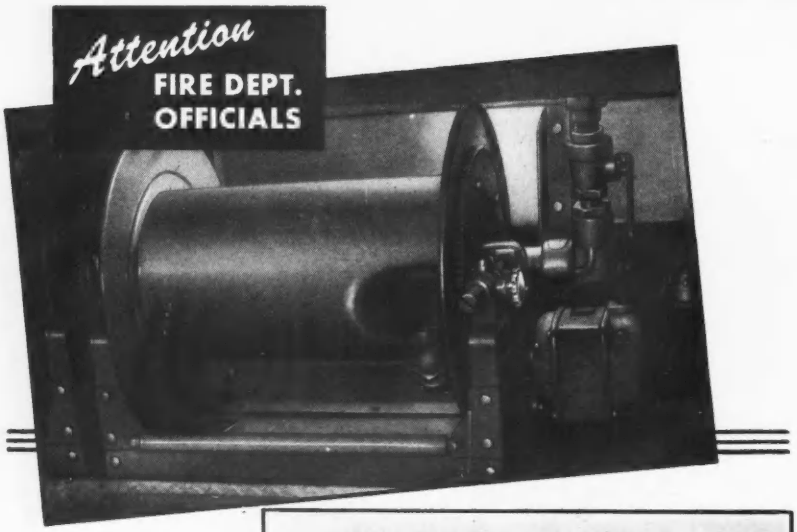
Church Buildings, Blackwell, Oklahoma

FIRE destroyed the First Baptist Church and adjoining new educational building on March 10, with loss of $266,000. Fire started in sub-basement heater room and police cruiser investigating report of smoke, radioed alarm at 2:25 A.M. There had been trouble with a furnace regulator the day before. Fire spread vertically through organ space to undivided attic, and horizontally through openings unprotected by fire doors or shutters into the new education building only two months old. Buildings were very heavily charged with smoke and entrance was impossible even with masks. Four pumper and four Hydrant streams were used to confine the fire to the church property. A turret nozzle with 1½-in. tip was used. Ponca City Apparatus covered the Blackwell fire station under mutual aid.

Providence Journal Bulletin

Trappist Monastery, North Cumberland, R. I.

LOSS exceeded $1,000,000 when fire starting in a guest house and dormitory of the Cistercian Monastery of Our Lady of the Valley swept into a large granite church. An infirmary was saved. Some 140 monks, sworn to a life of silence, escaped with their lives although a number had to jump from windows as flames cut off the stairway. Apparently no attempt was made to use the 750 gpm pumper donated to the monastery by Johnston Hose 3 (member NFPA in 1947). Monks fought the fire with extinguishers and buckets for half an hour before calling for help. First of 15 fire companies to arrive found hydrants dry and the water pump out of order. A small amount of water was obtained from a distant stream and a pond.



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WATER-RESISTANT
VAPOR-RESISTANT
EXPLOSION-PROOF

New models for fire trucks and airport crash trucks are especially designed with extra strong construction to withstand high pressures and the motor is protected against fog, foam, water and fumes. Developed to overcome the danger factors previously associated with electrical rewinds, the Hannay Reel has been PROVEN SAFE and efficient in exacting factory and field service tests. Explosion-proof, heavy duty motor with permanently lubricated bearings is Underwriters Approved Class 1, Group D, and is an integral part of the reel; needs no attention.

- ★ Can be connected through conduit, for sealed, safe installation.
- ★ Sealed push button control; "push" to start; "release" to stop.
- ★ Quiet, positive sprocket and chain drive; no gears to shift; no clutch to engage.
- ★ Safe rewind speed, always under control.
- ★ Smartly designed, compact, durable, dependable.
- ★ Simplicity of construction and operation reduces maintenance costs to a minimum.

ASK YOUR SUPPLIER
or write direct for
full information.

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REG. U.S. PAT. OFF.
HOSE REELS
CLIFFORD B. HANNAY & SON, Inc.
WESTERLO, NEW YORK

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Hackettstown Volunteers Protect Their Fire Station Against Fire

CHIEF Norman P. Tynan of the Hackettstown, N. J., Volunteer Fire Department reports that they were so impressed with a recent cover of FIREMEN showing the burning of a volunteer fire department station that they have taken steps as shown in the accompanying photographs to protect their own fire house should flames prevent them from entering the building to remove their fire fighting equipment.

The fire station of the Hackettstown volunteer firemen houses the Vigilant Hook and Ladder Co. No. 1 with 20 men and the Cataract Hose Co. No. 1 with 35 men. There are no paid men on duty. There is a meeting hall above the apparatus floor.

Chief Tynan also reports that they are using a 1½-in. skid hose load described in FIREMEN.

Hose box provided outside of the fire house containing two new 50 ft. sections of 2½-in. hose, a hydrant wrench, and nozzle. It is planned to replace the hose yearly because Chief Tynan reports this may be their only line in case of fire until outside help arrives. The box is 18-in. deep, 36-in. wide, 36-in. high at back.

The key to the hose box is in a glass rack on the inside door of the Gamewell fire alarm box on the front of the fire station adjacent to the front entrance. This alarm box is independent of the town fire alarm system and operates from a separate battery. Thus any interruption of the alarm system will not prevent sounding of an alarm from this point. The town has a 20 box fire alarm system.

Hackettstown's fire station showing the hydrant and hose box beside the building at the right of the picture.

Ventilation Contest — Win Some Money!

FIREMEN members of the NFPA should enter the $1,000 contest announced by the Association in its April 1950 *Quarterly* on "Basement Ventilation Methods." Prizes will be awarded as follows: First Prize: $500; Second Prize, $250; Third Prize, $100; and three Honorable Mention Prizes of $50 each. The fund has been established by Durham and Bates, General Insurance Agents of Portland, Oregon in the interest of fire waste reduction.

The purpose of the contest is to stimulate thought and to design methods of providing ventilation for the basement of a typical mercantile store so as to arrest the spread of fire and smoke and to remove from the building heated air and fire gases which are normally encountered. A full description is given in the "Contest Rules," copies of which are available from the NFPA Executive Offices.

Judges for the contest are Chief A. J. Mullaney, Fire Marshal, City of Chicago; Mr. John J. Ahern, Director of Fire Protection Engineering, Illinois Institute of Technology; Mr. Theodore I. Coe, American Institute of Architects; Mr. Ray C. Corson, Factory Mutual Engineering Division; and Mr. A. H. Baum, Building Officials Conference of America.

The principal object is to encourage development of ventilation methods through the use of mechanical equipment in a manner which will not result in spread of fire and for the purpose of reducing the extent of damage to the store. This includes automatic means of ventilation in event of fire and methods which might be followed by fire fighters called to the scene.

Write now for full Contest Rules to the NFPA, 60 Batterymarch St., Boston. The contest opened May 1, 1950, closes November 1, 1950. Winners of the prizes will be announced at the 55th Annual Meeting of the Association in Detroit during May 1951. This is your chance to earn some spare money and serve fire safety! You only have to be a member of the NFPA to be eligible.

13
AW, I'VE SEEN PLENTY OF SMOKE BEFORE— I DON'T NEED ANY MASK!
GUESS THERE'S NOTHING WRONG WITH JOE THAT A WEEK OR TWO IN THE HOSPITAL WON'T CURE!

Firemen need SCOTT AIR-PAK to give them complete protection under hazardous conditions caused by smoke or toxic fumes. An entirely self-contained unit, Scott *Air-Pak* gives the wearer an ample supply of cool, confidence-inspiring *air* (not oxygen) to keep him safe and working with utmost efficiency. The result is an outstanding record of life and property conservation through regular use of Scott *Air-Paks* for all emergencies.

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MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL

Finding GPM

OFTEN, it is important for a pump operator to know approximately how much water is being discharged by his pump in order that he may know whether it is possible to connect additional lines or to increase nozzle pressure. A fire department pumper that will give 750 gallons per minute at 120 pounds will provide 375 gallons at 200 lbs. Therefore, although it can supply two or even three streams while pumping at 120 lbs. it cannot supply two 250 gpm streams at the higher pressure. Thus the discharge of hose streams is an important factor in what any fire department pump will do.

Unfortunately, most of the formulas used in determining gallons per minute with fire streams, while relatively simple to use in a classroom or fire station, have not been simplified sufficiently to permit their use at fires. For example, the handiest and easiest formula for finding the gpm output of hose streams has been:

$$GPM = 29.7\ d^2 \sqrt{P}$$

with d being the diameter of the orifice, and P being pressure in lbs. per sq. in.

Obviously, it is not convenient on the fire ground to square the diameter of the nozzle or find the square root of pressure, even though this is easy to do in quarters. Few, if any, fire trucks are as yet equipped with a slide rule, desirable as this might be.

As has been pointed out many times in FIREMEN, figures exact to the last gallon mean little at a fire. Approximations to the nearest 10 gallons or to within 5 or 10 lbs. of the desired pressure are plenty close enough. This fact should make it possible to simplify the above formula and still have a useful tool that will be invaluable to the pump operator at fires.

For years it has been recognized that the 29.7 in the formula could be smoothed to an even 30 without appreciably effecting the results. This still leaves us with the square root of the pressure and the square of the nozzle diameter to cope with.

Let's take a look at these. There are only a few nozzle pressures commonly used at fires so that our problem is less difficult than would at first appear. These pressures with their square roots are listed below:

Pressure	Square Root of Pressure
40	6.3246
50	7.0711
60	7.7460
70	8.3666
80	8.9443
100	10.0000

Again, because we do not require accuracy to three or four decimal places we can simplify the list about as follows:

Pressure	Square Root of Pressure
40	6+
50	7
60	8−
70	8+
80	9
100	10

Each place where we have a plus or minus sign we will remember to add or to subtract 10 gpm if we want the answers to be a little more accurate. We demonstrate this in the accompanying table.

Now let us turn to the squares of the nozzle tip diameters. Again we are fortunate that there are only a few standard nozzle tips sizes for 2½-in. hand lines. We list these with the squares of their diameters:

Tip Size in Inches	Square of Diameter
¾	0.5625
⅞	0.7656
1	1.0000
1⅛	1.2656
1¼	1.5625

Again we are fortunate. We note that with the common 1-in. nozzle tip the square of the diameter is 1. Let's try out our simplified formula and see how this works. Assume we want to know the approximate gpm from a 1-in. tip at 50 lbs. We multiply 30 x 7 x 1 = 210 gpm. We look up the right answer and find that it is 209. Not bad, for such a rough and ready method.

Thus, to find any approximate discharge from a 1-in. tip we merely multiply 30 by the approximate square root of the pressure as listed above. For use, in case the square root factors slip from the mind, a simple scale is included below showing the square roots of nozzle pressures from 25 to 100 lbs. This might be pasted on card board and kept with the pumper.

You may say, "Yes, but what about other sizes of tips?" You can't multiply 30 x 7 x 0.7656 in your head on the fire ground to get the gpm for a ⅞-in. tip at 50 lbs.

No. But it is easier than that. We can change each of the squares of nozzle diameters to the nearest simple fraction as follows:

Tip	Square of Diameter	Fraction
¾	0.5625	½
⅞	0.7656	¾
1	1.0000	1
1⅛	1.2656	1¼
1¼	1.5625	1½

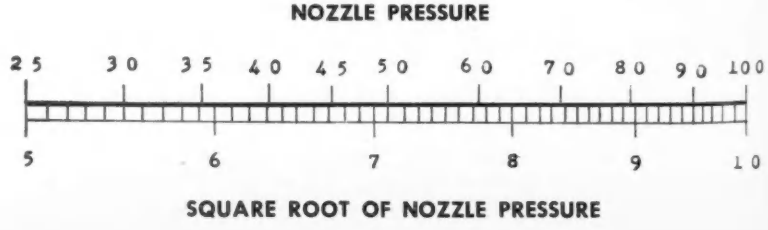
The gpm for any nozzle will be approximately that portion of the flow of the 1-in. tip indicated by the fraction. Thus the ¾-in. tip has slightly over one half of the flow of a 1-in. tip. A 1⅛-in. tip has one and a quarter times the flow of a 1-in. tip. These figures are close enough for fire ground work. If more

(*Continued on page 23*)

ESTIMATING GPM OF HOSE STREAMS

(The columns headed "Est." are obtained by this formula. Those headed "Actual" are from the NFPA "Handbook of Fire Protection.")

Nozzle Pressure Lbs.	Formula for 1 in. Tip			¾ in. Tip ½ of 1 in. Tip plus 10		⅞ in. Tip ¾ of 1 in. Tip		1⅛ in. Tip 1¼ times 1 in. Tip		1¼ in. Tip 1½ times 1 in. Tip plus 10	
		Est.	Actual	Est.	Actual	Est.	Actual	Est.	Actual	Est.	Actual.
40	30 x 6+10	190	187	105	104	143	141	237	237	295	292
50	30 x 7	210	209	115	117	156	158	262	265	325	326
60	30 x 8−10	230	229	125	127	173	173	287	290	355	357
70	30 x 8+10	250	247	135	137	187	186	310	313	385	386
80	30 x 9	270	264	145	147	203	199	337	335	415	413
100	30 x 10	300	295	160	165	225	224	375	374	460	461



Civil Defense Planning

THE NFPA and other organizations are being asked to cooperate with federal government planning for civil defense. General responsibility for civil defense in the United States is in the hands of the National Security Resources Board which has assigned a project on Fire Protection and Fire Fighting aspects of Civil Defense to the General Services Administration. The General Services Administration in turn has requested assistance from the Department of Defense and a number of organizations outside of the Government to assist in the preparation of statements about Civil Defense planning in this field.

A general project on the Fire Aspects of Bombing Attacks has been assigned to the Department of Defense. Secretary of Defense Johnson has assured the General Services Administration that certain technical information necessary for fire defense planning will be made available about June 15.

The International Association of Fire Chiefs and the Fire Marshals Section of the NFPA have been asked to prepare a statement about plans on fire department organization, and the protection of equipment, stations, and personnel.

The NFPA, in addition, has been asked to prepare suggestions dealing with first-aid fire fighting (fire guards) and also on factors to be considered in civil defense legislation. The latter subject is to be handled jointly with the International Association of Fire Fighters. The National Board of Fire Underwriters has been invited to make suggestions dealing with auxiliary water supplies. The matter of training has been turned over to the U. S. Office of Education. The subject of communications has been referred to the International Association of Fire Fighters with the idea that it will consult with other agencies concerned.

Most of the associations and government departments concerned have named individuals to act for them in contacts with the General Services Administration during the development of this project. Among the individuals assigned are John Neale for the National Board of Fire Underwriters, Fred Shepperd for the International Association of Fire Chiefs, George Richardson for the International Association of Fire Fighters, and Horatio Bond, Chief Engineer for the NFPA.

Most of these organizations will handle this subject as a staff matter. However, the Fire Marshals Section and the NFPA are both organizing committees on Civil Defense to give general attention to the subject.

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ACTUAL UNSOLICITED TESTIMONIALS TAKEN DIRECTLY FROM OUR FILES

INDIAN FIRE PUMPS Saved His Wheat!

I bought one of your INDIAN FIRE PUMPS last spring and already it has saved 19 acres of 50 bu. wheat for me. We carry it right on the combine and want you to know that we could not get along without it.

H. W. Davis

CHIEF SAYS, "INDIANS ARE THE FINEST EXTINGUISHERS EVER USED!"

The INDIAN FIRE PUMPS we have on our trucks are the finest portable extinguishers I have ever used.

They are the quickest, most economical means of extinguishing grass, brush, rubbish, awning or roof fires.

Frank Mitchell, Chief

"Found INDIAN FIRE PUMP Invaluable"

Will you kindly send us 6 more INDIAN FIRE PUMPS. We have one now and are very well pleased with it. We need 6 more. Foothills and mountains surround the school and whenever a brush or grass fire starts, the community calls on us for help. We have found the INDIAN FIRE PUMP invaluable in such activities.

Yours very truly,
Cheyenne Mountain Schools

If you, too, have used INDIAN FIRE PUMPS to advantage why don't you tell us about it? We would like to hear from you.

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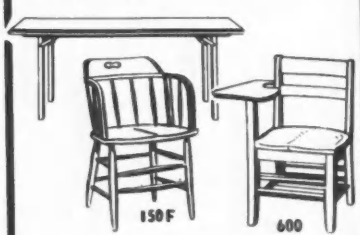

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Coming Events

Alabama. State Fire College, Alabama Firemen Training Station, University of Alabama, June 26-29.

Colorado. 33rd Convention, Fire School and Tournament, Colorado State Firemen's Association, Fort Morgan, June 7–10.

Connecticut. Ninth Annual State Fire College will be held at New Haven Fire School, June 7–10.

Illinois. 26th Illinois Fire College. Champaign-Urbana, June 20–23.

Indiana. State Fire School, Indianapolis, June 7–8.

Kentucky. Fire School, University of Kentucky, Lexington, June 6–8.

Michigan. Twenty-second Annual Fire College to be held at University of Michigan, Ann Arbor, June 20–23.

Nebraska. Regional one-day fire schools: Loup City, June 4; Holdrege, June 11; Alliance, June 18.

New Mexico. Fire School and Convention to be held at Tucumcari, June 19–21.

New York. 55th Annual Convention and Tournament, Southern New York Volunteer Firemen's Association, Elmont, June 22–24.

46th Parade and Tournament, Nassau County Firemen's Association, Hewlett, June 17.

Pennsylvania. Twelfth Annual Fire School will be held at Lewiston, Aug. 14–18.

The Berks County Firemen's Association will conduct their Fifth Annual Fire Training School, June 21–25 inclusive, at the Wyomissing Grade School, Wyomissing, Pennsylvania.

South Dakota. State Fire School will be held at Rapid City, June 19–23.

Tennessee. State Fire Service School will be held at Middle Tennessee State College, Murfreesboro, Aug. 21–25.

Texas. Twenty-first Annual Session Firemen's Training School, Texas A & M College, College Station, July 9–14.

Virginia. State Fire School to be held in Norfolk, Sept. 11–15.

West Virginia. Twentieth Annual Fire School to be held at Morgantown, July 24–28.

Wisconsin. Jefferson-Waukesha & Dodge County Fire School, Jefferson, June 4.

Fire Radio Frequency Plans

(Continued from page 16)

ment plan, and to furnish necessary frequency clearances required under F.C.C. rules. Chairman for the area embracing Delaware is Mr. Thomas G. Jones, Room 1116 Municipal Center, Washington, D. C. Chairman for the area embracing West Virginia is Mr. C. H. Whitaker, 463 Noah St., Akron 2, Ohio.

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- Dries hose in a few hours
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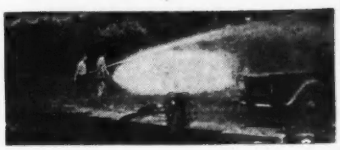
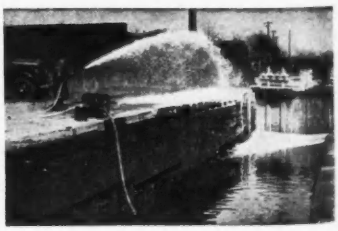
Ready-to-Use Portable Pump for fighting fires 3 ways: Solid Stream, Fog, or Foam



FZZ Portable Pumping Unit above is pumping fog and solid stream through 1½" lines. View below shows unit pumping foam. Foam proportioner available at slight extra cost.

The FZZ will supply from draft, 60 GPM at 90 lbs. pump pressure; and 150 GPM at 30 lbs. Can supply two capable streams through 1½" lines, using nozzle tips up to ½".



Available in carrying frame; mounted on wheels; or on rubber-cushioned steel channels. Can be mounted or carried on virtually any equipment for fighting brush fires while in motion using booster tank for water supply.

Write for new FZZ folder to:

HALE FIRE PUMP COMPANY
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Permanent Fire School Project Approved by Pennsylvania

VOLUNTEER fire fighters of Pennsylvania are very happy to know that the General State Authority has approved construction and operation of their proposed permanent fire training school at Lewistown, the scene of the annual Pennsylvania Firemen Training Schools which have achieved an outstanding reputation for their "learning through doing" techniques. The new fire school project, for which a site has been tentatively chosen, is expected to cost in excess of $300,000.

The Pennsylvania Firemen Training Schools are operated in cooperation with the fire departments of the state by the Public Service Institute of the Department of Public Instruction, headed by Alfred S. Holt. Edgar A. Spotz, a member of the NFPA Committee on Firemen Training, is Adviser for Fire Service Training.

IAFC Announces Third Bound Volume of Fire Service Bulletins

THE International Association of Fire Chiefs has announced the availability of Volume III of the Special Service Bulletins prepared by the National Board of Fire Underwriters. The third volume includes Bulletins 207–288, and is available from the International Association of Fire Chiefs, 22 East 38th Street, New York 16, N. Y. As in the case of previous volumes the price is $1.50, with reduced price of $1 to members of IAFC.

Squad Cars for District Chiefs

(*Continued from page 12*)

cars can also communicate from car to car.

"In the list of the equipment used on the cars, I would like to add one 2500 Watt AC or DC Homelite plant, one power Skil-Saw, and one Kerotest Emergency Cutting Equipment acetylene torch. Both the Skil-Saw and Homelite plant may be powered directly from the generator on the car or can be plugged into any electrical outlet in a building."

Making a Good Job of It

(*Continued from page 20*)

accurate answers are wanted they may be obtained by adding 10 gpm to the findings for the ¾-in. and 1¼-in. tips, because the fractions for these are a little on the low side.

The large table shows the answers found by this method, plus a corrected flow figure, indicating that in most cases the error is less than 1 percent. A figure within 5 to 10 percent would be close enough for practical purposes.

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STANDARD SERGES 12 TO 18 OZ.
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MEMBERSHIP REPORT

Membership in the NFPA Fire Company Section costs $12.50 per year. This includes 10 subscriptions to FIREMEN. Additional fire fighters may be enrolled to receive FIREMEN at $1.25 each. Other NFPA members will be sent FIREMEN on request.

MEMBERSHIP in the Fire Company Section of the National Fire Protection Association has been increased by eighteen new companies during the past month, bringing the total to 1,377 companies with 20,348 men enrolled receiving FIREMEN.

New Members of the Section are:

Abingdon Fire Protection District, Abingdon, Ill.
Alamo Heights Fire Dept., San Antonio, Texas
Atascadero Fire Dept., Atascadero, Calif.
Atherton Fire Co., Menlo Park, Calif.
Barlow Twp. Vol. Fire Dept., Vincent, Ohio
Cairo Vol. Fire Dept., Inc., Cairo, W. Va.
Castlegar Vol. Firemen's Club, Castlegar, B. C.
Cherryland Firemen's Assn., Hayward, Calif.
Chickasaw Community Fire Co., Chickasaw, Ohio
Clifford Vol. Fire Dept., Clifford, Ont.
Dumas Vol. Fire Dept., Dumas, Texas
Fairview Fire Dept., Fairview, Okla.
Freeport Vol. Fire Dept., Freeport, Texas
Greenville Hose Co., No. 1, Greenville, Maine
Hallstead Fire Engine & Hose Co., No. 1, Hallstead, Pa.
King County Fire Protection District No. 14, King County, Seattle, Wash.
Leroy Fire Dept., Webberville, Mich.
Loudonville Fire Dept., Loudonville, Ohio
Lynnfield Fire Dept., Lynnfield, Mass.
Minonk Fire Dept., Minonk, Ill.
Mission Fire Dept., District No. 2, Mission, Kan.
Mt. Morris Twp. Fire Dept., Mt. Morris, Mich.
North Brookfield Fire Dept., North Brookfield, Mass.
Quemont Mines Fire Brigade, Noranda, Que.
Sonoma Vol. Fire Dept., Sonoma, Calif.
Spring Valley Vol. Fire Dept., Spring Valley, Ohio
Union Vol. Fire Dept., Union, Mo.
Valley of the Moon Fire Dept., Boyes Hot Springs, Calif.
View Royal Vol. Fire Brigade, Victoria, B. C.
Witmer Fire Protective Assn., Witmer, Pa.
Yulan Fire Dept., Inc., Yulan, N. Y.

FIRE COMPANY SECTION MEMBERSHIP

($12.50 annual dues) Eligible:

(1) all bona fide volunteer fire organizations in any community.

(2) all fire departments and companies in communities of less than 25,000 population.

(3) all industrial fire brigades.

Member companies receive ten copies of FIREMEN magazine each month, mailed to the homes of individual firemen. Beyond the ten, additional copies of FIREMEN cost $1.25 per year.

Fire Company Section members receive at their headquarters, one copy of all publications sent to NFPA individual associate members.

INDIVIDUAL ASSOCIATE MEMBERSHIP

($12.50 annual dues) Eligible:

Fire departments not eligible for Fire Company Section membership, officers, firemen, and others interested in fire safety. NFPA associate members in the fire service receive: one copy of FIREMEN magazine monthly, the NFPA Quarterly, the monthly Fire News, technical standards, popular bulletins and posters. Member fire departments of any size may purchase extra copies of FIREMEN for their fire stations at $1.25 per year. Write for full details.

All associate members have one vote in Association affairs.

"Murch's chicken coop."

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"Put another nickel in."

Monkey Rides to Fires with Orchard Beach, Maryland, Firemen

by Joseph G. O'Keefe

HERE'S one fireman who just goes along for the ride. When the siren sounds and the engine warms up at the Orchard Beach Volunteer Fire Company, Pete, a nimble, brown monkey hops up to a place beside the driver. The excitement is contagious. When the apparatus roars out of headquarters, Pete flings his arms and screeches almost as loud as the siren.

No one knows much of Pete's origin, except that he was a gift from a soldier who was going to an army hospital and was looking for a comfortable home for his pet. "He's really an asset to us," Driver Edwin S. Schmidt says. "You know how people will mill around a fire and often get in the firemen's way? Well, when we reach the scene we leave Pete chained to the engine, and while the crowds are standing around watching his antics, we can go about our business of putting out the fire.

Fire alarms have taken on a new interest in the town since Pete became the star of the show. Every child and adult within earshot makes a beeline for the firehouse at the first notes of the siren to watch the mascot's performance as the engine roars by.

Friend of the Firefighter!

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PROTECTIVE CLOTHING

The Original Mackinaw Striped Safety Coat

Reduces Accidents · Saves Lives

Several years ago, Midwestern developed the *original* striped safety coat. The highly visible stripes are moulded to and vulcanized as part of the material. Thousands of Midwestern Safety Coats are serving fire departments throughout the world. Service records prove these garments not only offer high safety visibility, but have the qualities required to withstand the rough usage required in your hazardous work of protecting life and property against fire.

Midwestern *does not* offer a safety coat with the stripes painted or sewed on. The *original* Midwestern Safety Coat gives you trouble-free protection and service for the entire life of the garment.

PROTECTION - COMFORT - SERVICE

Largely through superior quality, design, fabric texture and advanced features, Midwestern is a leader in the field of firemen's clothing. Regardless of climate and performance demanded, you will find a fabric to exactly suit your needs in our vast selection of crude rubber and fabric materials.
For full information on our complete line, see your Midwestern dealer. A letter to the factory will also bring you material samples for your inspection.

MIDWESTERN MFG. CO., Mackinaw, Illinois
Manufacturers of the Famous **MACKINAW Coats**

NO TIME LOST "WONDERING" HOW TO USE THIS EXTINGUISHER!

The first 10 to 30 seconds can mean the difference between *no loss* and *complete destruction* when fire starts. That's why Randolph's simple, *obvious* operation is so important in stopping fires *before* they spread!

Anybody can get a Randolph into action FAST! No valves to turn, no nozzles to adjust; just point and press your thumb! Randolph's snowy CO_2 is non-damaging, evaporates without a trace. It's non-toxic, won't conduct electricity, deteriorate or freeze.

UNDERWRITERS' APPROVED

Learn how Randolph gives your plant better *preventive* fire protection!
Write for full information today!

IT'S A RANDOLPH!

RANDOLPH LABORATORIES, INC.
5 EAST KINZIE ST. • CHICAGO 11, ILLINOIS

NEW! U.S. DECAL BRINGS LOW COST IDENTIFICATION

For ALL Volunteer Firemen

These new richly colored all-lacquer decals look rich and smart on automobile windshields. Easy to apply — they stay on. Give positive identification. *Your* fire company name and address are imprinted in the bottom panel. *A big hit!*

Look At These Low C.O.D. Prices

25-49	50c ea.
50-99	40c ea.
100-149	30c ea.
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FIRE CHIEFS: FREE OFFER

Gentlemen: Send me one specially-imprinted, full-size chief's fire dept. decal for my car. No cost. No obligation.

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UNITED STATES DECAL CO.
P. O. BOX 193 WILLIAMSVILLE 21, N. Y.

CARPENTER LIGHTS

Clears *your* side of the way, too, as well as warns those approaching.

Flash'N Wag

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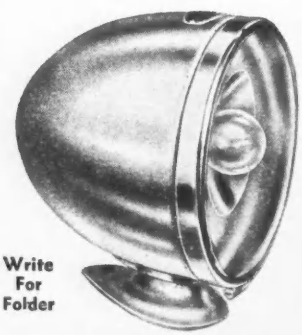


Write For Folder

In a class by itself. Combination flashing, oscillating WIG-WAG Redhead. Beam range 1000 feet ahead, visible for miles. Safer, faster, quieter runs. 6" and 8" diameter sizes.

"Master-Light-Makers for 34 Years"

CARPENTER MFG. CO.
168 MASTER-LIGHT BLDG.
BOSTON - 45 -
SOMERVILLE, MASS.

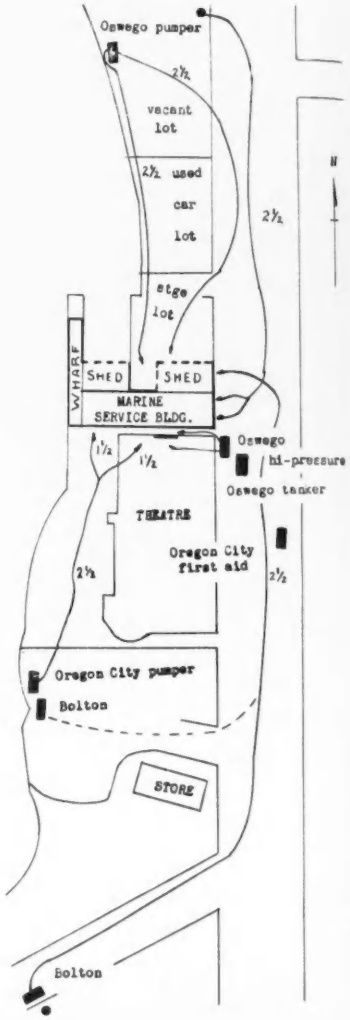
Mutual Aid Effective in Clackamas County, Oregon

THE mutual aid plan of Clackamas County, Oregon, was given its first real workout recently when fire broke out in a marine sales and service establishment on the lakefront of Oswego, Oregon. The fire which was discovered during the noon hour swept through the 2-story wood frame building and adjoining sheds. The fire destroyed two cruisers, eleven inboard boats, eight outboard boats, 35 motors and equipment.

The Oswego department responded with a 500 gpm pumper, John Bean high pressure truck, and a 1200 gallon tank truck. A hose and booster truck was out of service. The high pressure truck arrived first and used its lines to protect a theatre which was seriously exposed. The pumper laid a hydrant line supplying two 1½-in. lines and then went to the lake to draft, supplying two 2½-in. lines. The tanker was used to replenish the high pressure unit's water supply.

Chief Montgomery of Oswego responding in his radio equipped car, saw the heavy column of smoke and contacted county radio headquarters at Oregon City police and fire headquarters requesting a third alarm assignment. This was the first intimation of the situation received by the main control station. In accordance with a pre-arranged mutual aid schedule, a pumper and first aid car was immediately dispatched from Oregon City and West Linn's No. 2 pumper was sent from Bolton.

The Clackamas County mutual aid plan is officially recognized by seventeen cities and fire protection districts. Pre-arranged assignments cover up to four alarms in each community. Up to 16 trucks can be sent to a fire without leaving any community unprotected.



Late stage in the fire showing 1½-in. lines on roof of theatre operating on fire in marine supply concern. A high pressure fog gun prevented extension of flames into projection room which was directly exposed from the adjoining building. Loss estimated $100,000.

No place for a pressure burst!

GENERAL

BWH

DEPENDABLE RUGGEDNESS

Tough fires demand rugged fire hose!

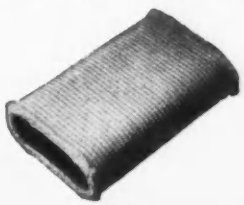
You can't fight tough fires with tired hose! *Maybe* a bucket brigade could handle a *small* fire if hose burst under pressure. But it's smarter to have plenty of BWH Fire Hose on the truck . . . then you're ready for quick action with no breakdowns!

BWH originated circular woven cotton jackets for fire hose . . . a construction that gives strength without weight. BWH high-quality rubber tubes are specially compounded to resist aging. Flat cured to fold compactly and quickly in the truck bed, there's minimum twist and maximum flexibility for rapid advancement.

For detailed information on BWH Fire Hose, call the nearest representative of The General Detroit Corporation. The "General" trademark is easy to find in the classified section of your telephone directory and a call to this organization of acknowledged fire equipment experts will bring you impressive facts about BWH Fire Hose dependability.

BWH
"BOSTON FIRE JACKET" HOSE

Double Jacket
Heavier, stronger fibers, perfect adhesion, smooth, friction-resistant waterway. Rates tops in every test!

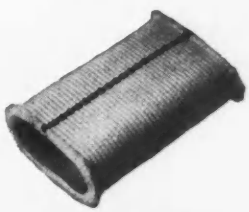


BWH
"PARAMOUNT" HOSE

Double Jacket
Designed for easy handling and long service on tough jobs. Ages well, withstands high pressures.

BWH
"MILO" HOSE

Single Jacket
For long, trouble-free performance in communities where a light service hose is adequate.



BWH
"UNDERWRITERS" HOSE

Single or Double Jacket
Made in strict accordance with the National Board of Fire Underwriters' specifications. Labeled or unlabeled.

Distributors of famous

BOSTON WOVEN HOSE AND RUBBER CO.

Municipal Fire Hose

THE GENERAL DETROIT CORP.

DETROIT 7, MICHIGAN

NEW YORK • ATLANTA • CHICAGO • DALLAS

Subsidiary:

THE GENERAL PACIFIC CORP.

LOS ANGELES • SAN FRANCISCO • SEATTLE

All over the country people are calling the Federal Beacon-Ray Light the FIREBALL. And, fireball it is in its unmistakable rotating warning motion. The spectacular action of the 180° spaced beams rotating through 360° gives — for the first time — complete *all-around* protection. Motorists and pedestrians are alerted at far greater distances than ever before — and from every angle. Call it "Beacon-Ray" or call it "Fireball" — mount it with regular flush roof mounting or on the special pipe mounting — either way (and by any name!) it will give you more protection than any other warning light. Write today for Beacon-Ray (FIREBALL) Bulletin.

Specify Federal Beacon-Ray warning light on all new apparatus

FEDERAL ENTERPRISES, INC.

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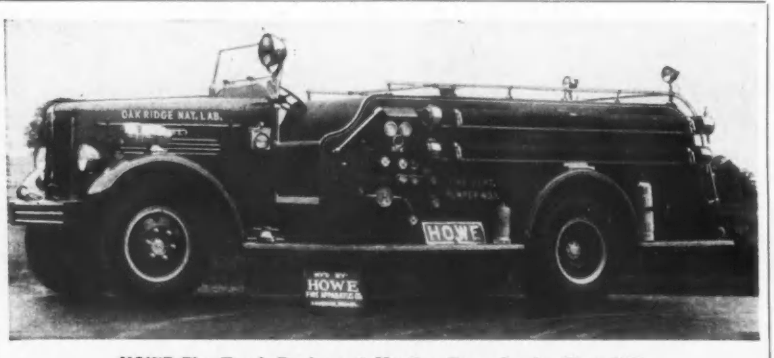


HOWE Fire Truck Equipment Meeting Every Service Since 1872
Centrifugal, Rotary and Piston Pumps supplied
HOWE FIRE APPARATUS COMPANY, 1406 West 22nd Street, Anderson, Indiana

What's New In Fire Equipment?

New Automatic Fire Alarm by Buffalo Fire Appliance Corp.

Mounted on wall or ceiling, the new automatic fire alarm wind-up unit requires no electricity and sounds a five minute warning when temperature reaches 135°. Write to the Buffalo Fire Appliance Corp., for further details. Dayton 1, Ohio.

Improvement on "Indian Pump"

The D. B. Smith Company of Utica, New York, announces improvement on the packing nut of their famed Indian Fire Pump to prevent leakage and to provide smoother operation. The new nut is known as "FO-15" Gland Packing Nut.

Rockwood Sprinkler Free Booklet on 15 Types of Fire Protection

A new booklet illustrates the 15 types of protection for extinguishing and controling fires in ordinary combustibles and flammable liquids. Write Rockwood Sprinkler Co., 38 Harlow St., Worcester 5, Mass.

Mine Safety Appliances Installs 15 CO Recording Instruments in New York's Holland Tunnel

Fifteen scientifically improved carbon monoxide recording instruments are being installed in the Holland Tunnel by engineers of the Mine Safety Appliances Co., Pittsburgh, Pa. Samples of tunnel air are analyzed continuously to protect motorists from exposure to hazardous concentrations of CO.

Ansul Offers Extinguisher Inspection Charts for Accurate Records

Space for 26 inspections of up to 38 extinguishers is provided on the free inspection charts Ansul Chemical Co., Marinette, Wisconsin, offers to fire inspectors. Send request to manufacturer.

Unique Shock Absorber Makes Electric Hamer-Dril Easy to Use

Hamer-Dril Company announces new and unique shock absorber makes their 2½ lb. electric Hamer-Dril easy to use and to protect the drill. Just what fire department tool kits need! Helpful literature on request - Hamer-Dril Co., Box 158, Planetarium Station, N.Y. 24, N.Y.

FOR SALE

Rebuilt Hale fire engine with 500 g.p.m. Hale pump, 75 gallon booster tank, 150 ft. booster hose, 3-4 in. and 2-2½ in. suction hose, 16 ft. and 24 ft. ladders, nozzles and fittings.

Write: Hope Hose Co., No. 1, D. R. Evans, Secretary, Bordentown, N. J.

can your present equipment prevent tragic loss of life and property?

IT CAN, if your town is one of the thousands equipped with John Bean High-Pressure Fog Fire Fighters.

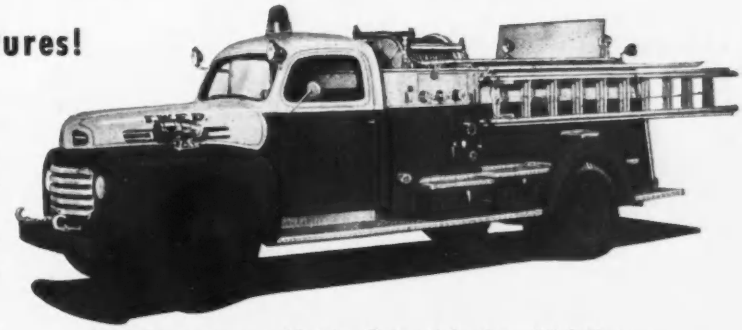
Here's why: *This amazing apparatus carries its own water supply and allows firemen to go into action immediately without wasting time laying hose.*

In action, the patented Bean Fog Gun, easily operated by two men, breaks the water into billions of tiny particles that smother the fire with a blanket of fog. Bean High-Pressure Fog practically eliminates water damage because it outabsorbs low-pressure water 10 to 1.

Assure your town of maximum protection with minimum fire loss. Write today for a fully illustrated booklet on modern, John Bean fire protection.

Sensational John Bean Features!

- **Goes into action immediately because it carries its own water supply**
- **Clears way for close-up, inside work with protective screen of flame-smothering High-Pressure Fog**
- **Puts fires out faster because Bean High-Pressure Fog outabsorbs low-pressure water 10 to 1**
- **Practically eliminates water damage by extinguishing fires quickly and efficiently**



PROTECT your town with this efficient John Bean High-Pressure Fog Fire Fighter. 435-gal. tank—60 G.P.M. at 850-lb. pressure —2 hose lines, each 250 ft.—choice of 2- to 4-ton chassis.

BEAN *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY AND CHEMICAL CORPORATION

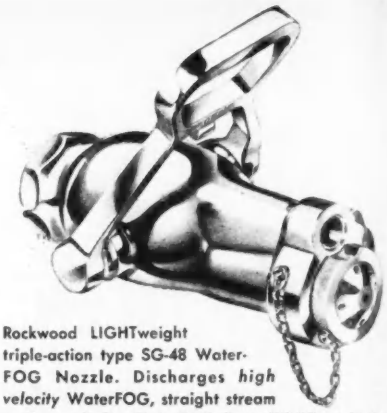
JOHN BEAN DIVISION, DEPT. 127, LANSING 4, MICH. • JOHN BEAN DIVISION (WESTERN), 426 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

Rockwood's Family of Modern Fire Fighting Tools and Chemicals

Continues to Grow

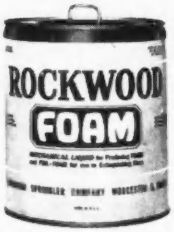
into the most advanced line of fire fighting products that has been offered to firemen in a half century.



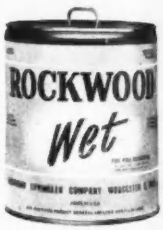
Rockwood LIGHTweight triple-action type SG-48 Water-FOG Nozzle. Discharges *high velocity* WaterFOG, straight stream or *low velocity* WaterFOG from LIGHTweight Extension Applicator. Available for ¾", 1" 1½" and 2½" hose size.

New LIGHTweight Type FFF Rockwood FogFOAM Nozzle. Available in three sizes for service on 1½", 2½" or 3½" hose. Discharges (1) a wide protective pattern of FogFOAM (with FogFOAM screen) (2) a long range solid FOAM stream (with FOAM shaper) (3) or, by shutting off FOAM Liquid supply, an excellent high velocity WaterFOG pattern is discharged.

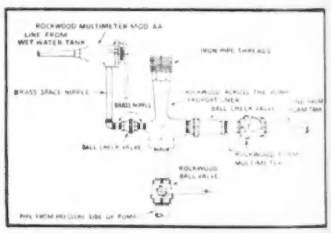
Rockwood FOAM eductor introduces FOAM Liquid into hose line for use with Rockwood type FFF FogFOAM Nozzles. Eductor can be attached between discharge of fire truck and hose line, connected between hydrant and hose line or between two lengths of hose. Separate models are available for FOAM and Water Wetter.



Rockwood FOAM. A mechanical liquid type FOAM for producing FOAM and FogFOAM for use in extinguishing fires.

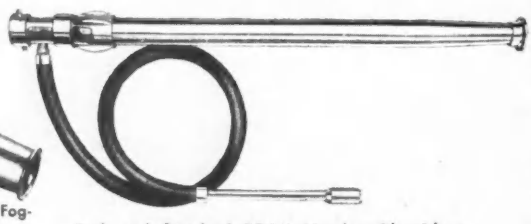


Rockwood "Wet". Wetting agent or penetrant to be mixed with water for fighting fires.



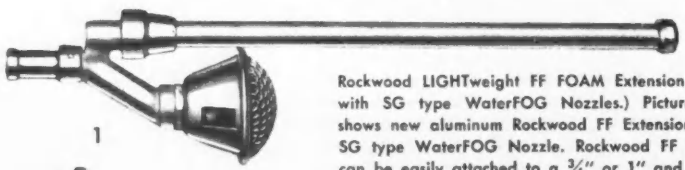
Rockwood Model B Automatic proportioner for fire trucks—pays for itself by automatically feeding FOAM Liquid or wetting agent into hose lines. Eliminates waste.

Rockwood LIGHTweight type FFF Fog-FOAM Nozzle with FOAM shaper attached.



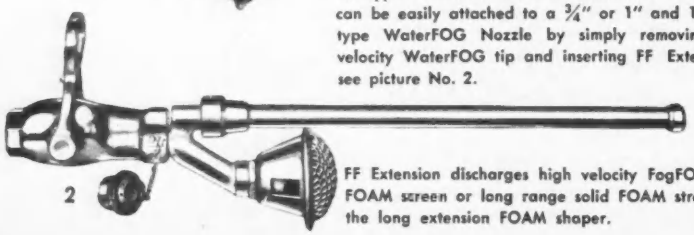
Rockwood Standard FOAM Nozzle with pick-up tube. Discharges a solid FOAM stream on 1½" hose lines only.

Rockwood Bayonet Adapters for use in extending and reducing hose lines from Rockwood SG type WaterFOG Nozzles.



1

Rockwood LIGHTweight FF FOAM Extension (for use with SG type WaterFOG Nozzles.) Picture No. 1 shows new aluminum Rockwood FF Extension without SG type WaterFOG Nozzle. Rockwood FF Extension can be easily attached to a ¾" or 1" and 1½" SG type WaterFOG Nozzle by simply removing high velocity WaterFOG tip and inserting FF Extension — see picture No. 2.



2

FF Extension discharges high velocity FogFOAM thru FOAM screen or long range solid FOAM stream thru the long extension FOAM shaper.

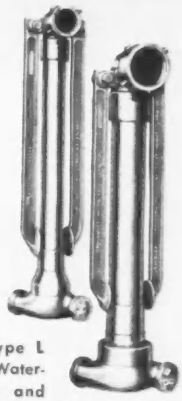
1

2

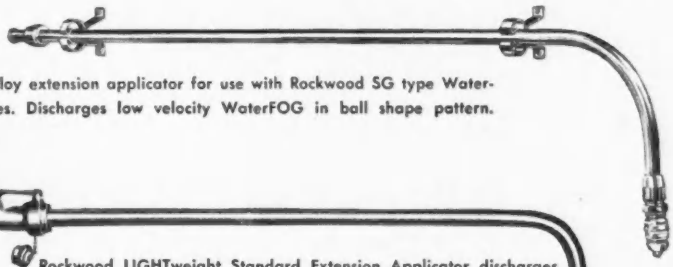
Picture 1 shows a Bayonet Adapter being inserted in a SG type WaterFOG Nozzle. Picture 2 shows another length of hose attached and ready for action without shutting off hydrant or pumper.

Rockwood LIGHTweight Type B, 500 GPM, High Capacity WaterFOG Nozzle for use on deluge guns, ladder pipes, etc.

Rockwood LIGHTweight type N-23 WaterFOG Nozzle with swivel handles. This nozzle discharges high velocity WaterFOG only and is similar to the Rockwood N-22 Nozzle but with a higher discharge and greater range of WaterFOG. Available for 1½" and 2½" fire hose lines.

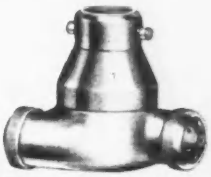


Rockwood Type L LIGHTweight WaterFOG Cellar and Attic Pipe rotates freely without vibration (equipped with *thrust* bearings). Discharges WaterFOG in any position, easy to handle in action. Fights fires in cellars and attics, under piers and bridges, etc. Available for 1½" and 2½" hose size.

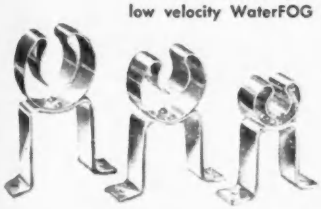


Aluminum-alloy extension applicator for use with Rockwood SG type WaterFOG Nozzles. Discharges low velocity WaterFOG in ball shape pattern.

Rockwood LIGHTweight Standard Extension Applicator discharges low velocity WaterFOG in ball shape pattern.

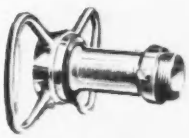


Rockwood Type S LIGHTweight Rotating Cellar and Attic Nozzle. A short unit with swivel, but without Extension barrel, for direct connection to hose. Two sizes for 1½" and 2½" hose.



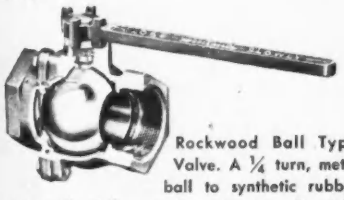
Rockwood Applicator Clips for mounting Extension or Standard Rockwood WaterFOG Applicators on fire trucks, walls, posts, etc.

Rockwood LIGHTweight type N-22 WaterFOG Nozzles for service on 1", 1½" and 2½" fire hose lines. The type N-22 Nozzles discharge high velocity WaterFOG only and are recommended for general use around live electrical equipment.



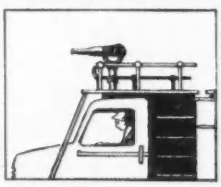
Rockwood LIGHTweight swivel handle play pipe available in 1½" and 2½" sizes for all Rockwood Nozzles.

Rockwood LIGHTweight ball type shut-off for use on 1½" and 2½" fire hose lines.

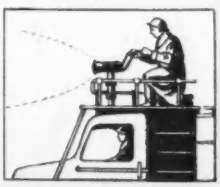


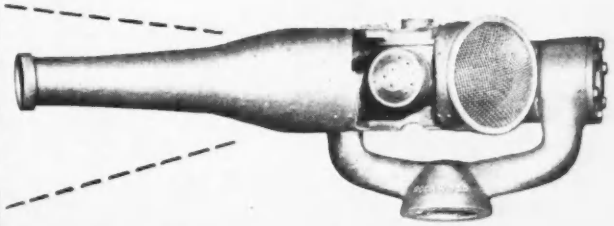
Rockwood Ball Type Valve. A ¼ turn, metal ball to synthetic rubber seat with full *round* waterway. Specially adapted for fire trucks.

HYDRAULIC REMOTE CONTROL: New type FFF Nozzle and turret installed on roof of cab can be operated easily from within cab by hydraulic controls. Same unit can be operated manually.



MANUAL CONTROL: Type FFF Nozzle and turret can be supplied as an integral unit for manual operation only by omitting hydraulic remote control mechanism.





New Rockwood Type FFF combined Nozzles and turrets provide 4 different types of discharge (1) FogFOAM (2) solid FOAM stream (3) WaterFOG and (4) solid water stream. Designed for use on airport crash fire fighting trucks and special fire fighting trucks for oil refineries, chemical and industrial plants. Can be supplied for hydraulic remote control or manual operation.

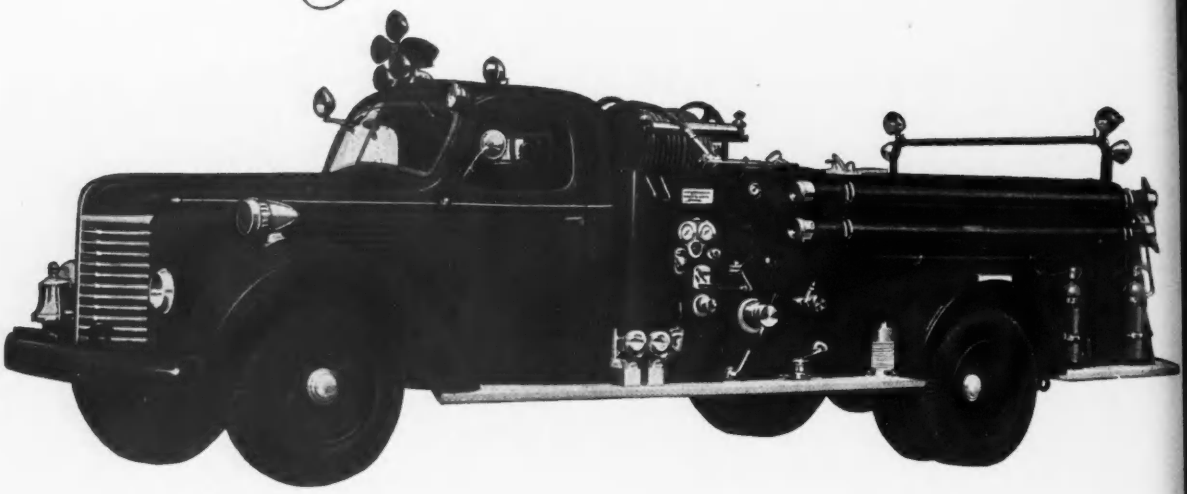
ROCKWOOD

Portable Fire Protection Division

ROCKWOOD SPRINKLER COMPANY

88 HARLOW STREET WORCESTER 5, MASSACHUSETTS

Real News!



American Pumping Engines...

Shown above is the Barton Super-fog gun in action. Mere finger pressure will give you long and short range fog streams and powerful straight streams at safe high pressures. It is the most effective fire fighting stream yet produced.

Standard equipment on all American Fire Apparatus fire trucks

Yes, an American Fire Apparatus Pumping Engine in your community will make real news. Whether it be a big one or a small one, a mid-ship or front mounted model, everyone will be talking about the "new town fire truck." Everyone will be proud to have one of these modern engines as a part of their community protection.

Call on one of our established representatives to report the "news."

ATTRACTIVE TERRITORIES AVAILABLE -- WRITE DIRECT

American

FIRE APPARATUS*

***Div. American-Marsh Pumps, Inc.**

BATTLE CREEK, MICHIGAN